KURENKOV, Yu.V., kand.ekonom.nauk; KOKOREV, V.A., inzh.; LIVSHITS, V.B., inzh.

Standard types of weaving equipment. Mekh.i avtom.proizv. 16 no.12:39-45 D '62. (MIRA 16:1)
(Textile machinery)

KOKOREV, V.A.; SIDOROV, Yu.P., kand. tekhn. nauk; BELOGUR-YASNOVSKAYA, R.I., nauchn. red.; BORUSHKOY, I.V., red.

[Basic trends in the improvement of the design of looms and the development of a new type of weaving machinery; a survey] Osnovnye napravleniia usovershenstvovaniia konstruktsii tkatskikh stankov i sozdanie tkatskikh mashin novogo tipa; obzor. Moskva, 1963. 97 p. (Seriia III: Novye mashiny, oborudovanie i sredstva avtomatizatsii, no.67) (MIRA 17:10)

1. Moscow. TSentral'nyy institut nauchno-tekhnicheskoy informatsii po avtomatizatsii i mashinostroyeniyu.

KOKOREV, V. I., Cand of Tech Sci — (diss) "Hydraulic Braking of Logs in Collection Centers as a Means of Increasing Production," Leningrad, 1959, 17 pp (Leningrad Forestry Engineering Academy im S. M. Kirov) (KL, 4-60, 119)

L 52093-65 EWT(d)/EWT(l)/FA/T-2/EWP(l) Pg-4/Pk-4/Pl-4/Po-4/Pq-4/ IJP(c)

ACCESSION NR: AP5015356 BC UR/0286/65/000/009/0100/0100
621-576

49
48
B

AUTHOR: Chelishchev, B. A.; Shramko, V. D.; Kokorev, V. I.

TITLE: A pneumohydraulic servomechanism. Class 42, No. 170779

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1965, 100

TOPIC TAGS: automatic control, pneumatic control, pneumatic device

ABSTRACT: This Author's Certificate introduces a pneumohydraulic servomechanism. The device contains a piston-type pneumatic servomechanism and a piston-type hy- [illegible] The damper rod is rigidly connected to the rod of the pneumatic [illegible] operation is provided by mounting two [illegible], two fixed [illegible] aperture symmetr[illegible] slide valve in the [illegible] connects the [illegible] The symmetric slide valve is rigid[illegible] ted with two [illegible] drives of the [illegible] [illegible] with the pneumatic [illegible] [illegible] two auxiliary [illegible] with respect to the valve and [illegible] positive exhaust overlap and positive intake overlap.

Card 1/2

L 52093-65
ACCESSION NR: AP5015356

ASSOCIATION: Eksperimental'nyy nauchno-issledovatel'skiy institut kuznechno-
[illegible] mashinostroyeniya (Experimental Scientific Research Institute of Forging
[illegible]ing)

SUBMITTED: 12Aug63 ENCL: 00 SUB CODE: DP, IR

NO REF SOV: 000 OTHER: 000

Card 2/2

KOKOREV, V.I.

Shortcomings of the All-Union State Standard for particle boards made by extrusion compression. Der. prom. 14 no.2:13 F '65.
(MIRA 18:6)

L 14445-66 EWT(d)/EWP(h)/EWP(1)

ACC NR: AP6002966 SOURCE CODE: UR/0286/65/000/024/0134/0135

INVENTOR: Chelishchev, B. A.; Shramko, V. D.; Kokorev, V. I.

ORG: none

TITLE: A manipulator for holding and transferring workpieces. Class 49, No. 177256 [announced by the Experimental Scientific Research Institute for Construction of Stamping and Forging Machines (Eksperimental'nyy nauchno-issledovatel'skiy institut kuznechno-pressovogo mashinostroyeniya)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 134-135

TOPIC TAGS: material handling, remote handling equipment, pneumatic servomechanism

ABSTRACT: This Author's Certificate introduces a manipulator for holding and transferring workpieces. The device contains a stand made in the form of a column which is connected to the tong assembly through a system of hinged levers, e.g. by vacuum suction devices equipped with a pneumohydraulic servodrive and a pneumatic programmed remote control system. The manipulator is designed for picking up and transferring workpieces to any point within its servicing radius and orienting them in the proper

Card 1/3 UDC: 621.86.062

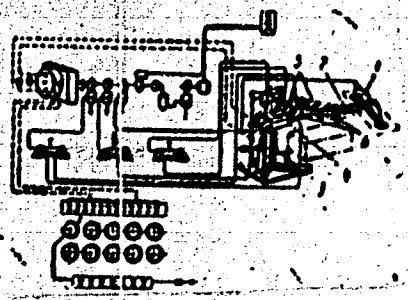
L 14445-66
ACC NR: AP6002966

position. The tong assembly is connected by levers to a transverse member mounted in the column so that it can be moved in the vertical direction. The lever system is equipped with a chain drive with sprockets mounted on the hinged axles in the system. These sprockets may be used for individual control of each lever and for orienting the tong assembly in the proper position.

SUB CODE: 13/ SUBM DATE: 27Dec63

Card 2/3

L 14445-66
ACC NR: AP6002966



1 - tong assembly; 2 - levers; 3 - column; 4 - transverse member; 5 - chain drive; 6 - sprocket.

QC

Card 3/3

SOV/153-2-4-3/32

5(4)

AUTHORS: Morozov, I. S., Korshunov, B. G., Kokorev, V. V., Ionov, V. I.

TITLE: Thermal and Tensimetrical Investigation of the System $NbCl_5$-$FeCl_3$-NaCl

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 4, pp 485 - 489 (USSR)

ABSTRACT: The investigation of the subject mentioned in the title is of interest with regard to the preparation of easily fusible melts containing niobium as well as to the purification of $NbCl_5$ from $FeCl_3$. The system mentioned in the title is part of the quaternary system $NbCl_5$-$FeCl_3$-$AlCl_3$-NaCl. A thorough investigation of the latter will make it possible to produce melts with a crystallization temperature lower than that of the adjacent ternary systems (Ref 2). In the treatment of raw material containing niobium by chlorine a simpler condensation device is sufficient for easily fusible melts. The binary lateral systems adjacent to the system mentioned in the title have already been investigated earlier (Refs 3-5). In order to investigate the ternary system, five inner sections were made, and several mixtures determined

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which do not form independent sections. Tables 1 and 2 show the results. The crystallization of the melts the figurative points of which are in the triangle $NbCl_5$-$FeCl_3$-$NaFeCl_4$ in the phase diagram is concluded in the triple eutectic point E_2; the solid alloys consist of the phases $NbCl_5$, $FeCl_3$ and $NaFeCl_4$.

The tensimetrical investigation of the system mentioned in the title was supposed to prove the results of the thermal analysis mentioned above. Moreover, the possibility of separating niobium chloride and iron chloride was to be examined. For this purpose, the vapor tensions over the mixtures of $NbCl_5$, $FeCl_3$ and NaCl were determined between 130 and 320°. For method and apparatus see reference 3. A table (without number) shows the composition of these mixtures in mol%. The results are shown in table 1 and figure 3. The results of the thermal analysis were proved by tensimetrical inventigations of the system mentioned in the title. Moreover, the possibility of separating niobium chloride and iron chloride by means of fractional distillation in the presence of NaCl was proved. In addition, vessels by Stepanov were mentioned in the paper.

Thermal and Tensimetrical Investigation of the System $NbCl_5$-$FeCl_3$-NaCl SOV/153-2-4-3/32

There are 3 figures, 1 table, and 6 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M. V. Lomonosova, Kafedra tekhnologii redkikh i rasseyarnykh elementov (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov, Chair of Technology of Rare and Dispersed Elements)

SUBMITTED: April 28, 1958

Card 3/3

S/149/60/000/003/010/012/XX
A006/A001

AUTHORS: Ionov, V.I., Korshunov, B.G., Kokorev, V.V., Morozov, I.S.

TITLE: Physical and Chemical Study on Interaction of Thorium Chloride With Chlorides of Alkali-Metals and Cerium in Melts

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, 1960, No. 3, pp. 102-108

TEXT: Literature data on thorium chloride chemistry are incomplete and obsolete. The authors investigated the interaction of thorium chloride with chlorides of sodium, potassium, cesium and cerium in melts, for the purpose of completing the knowledge about the physical and chemical nature of some technological processes of thorium chloride preparation. Thorium chloride was prepared by chlorination of thorium dioxide mixed with charcoal from sugar, by gaseous chlorine at 1,000-1,050°C. The melting temperature of the chloride obtained was 750°C. Vapor tension of thorium chloride corresponding to its melting temperature was about 80 mm Hg. Cerium chloride was prepared by the method described in Reference 16. The melting temperatures of chlorides of sodium, potassium, cesium and cerium were 800, 776, 646 and 802°C, respectively. The chloride systems

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S/149/60/000/003/010/012/XX
A006/A001

Physical and Chemical Study on Interaction of Thorium Chloride With Chlorides of Alkali-Metals and Cerium in Melts

mixture in all experiments was about 30 g. The salt mixtures were melted in sealed ampoules cooled, crushed in argon atmosphere, and placed into the apparatus. The amount of chlorine passed was determined from the increase in weight of the potash bulbs filled with 25% NaOH solution. The rate of the chlorine current was sufficient to saturate the volatile chlorides. The quantity and composition of the sublimate were determined by chemical analysis and the pressure in the apparatus by the sum of atmospheric and excess pressure obtained when the gas passed through the absorption flasks. A formula is given to calculate the partial vapor tension of the mixture components, and values of vapor tension of thorium chloride over Na_2ThCl_6, K_3ThCl_7 and Cs_3ThCl_7 at various temperatures are given. It was established that the thermal stability of thorium chloride combined with alkali metal chlorides changed regularly, increasing from sodium chloride to cesium chloride. The method of thermal analysis was used to study fusibility of the systems $ThCl_4$ - $CeCl_3$ and $ThCl_4$ - $CeCl_3$ - NaCl, which was shown on fusibility

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S/149/60/000/003/010/012/XX
A006/A001

Physical and Chemical Study on Interaction of Thorium Chloride With Chlorides of Alkali-Metals and Cerium in Melts

diagrams. There are 4 figures, 1 table and 20 references: 5 Soviet, 8 English, 3 French and 4 German.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskiy tekhnologii (Moscow Institute of Fine Chemical Technology). Kafedra khimii i tekhnologii redkikh i rasseyannykh elementov (Department of the Chemistry and Technology of Rare and Dispersed Elements)

SUBMITTED: July 1, 1959

Card 4/4

86938

S/149/60/000/006/010/018
A006/A001

2,3000

AUTHORS: Korshunov, B. G., Ionov, V. I., Baklashova, T. A., Kokorev, V. V

TITLE: An Investigation of Interactions Between Thorium Chlorides and Chlorides of Magnesium, Calcium, Cerium, Aluminum, Iron, Niobium, Tantalum and Oxychloride of Niobium in Melts

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, 1960, No. 6, pp. 114-118

TEXT: The extended use of chlorine methods for processing complex rare-element raw materials containing thorium, requires a study of the systems with the participation of thorium chloride. The authors carried out thermal and tensiometrical analyses to investigate the interaction of components in the following systems: $ThCl_4$ - $MgCl_2$, $ThCl_4$ - $CaCl_2$, $ThCl_4$ - $CeCl_3$, $ThCl_4$ - $AlCl_3$, $ThCl_4$ - $FeCl_3$, $ThCl_4$ - $NbCl_5$, $ThCl_4$ - $TaCl_5$, $ThCl_3$ - $FeCl_3$ - $NbCl_5$ and $ThCl_4$ - $NbOCl_3$. The chlorides were obtained as follows: chloride of thorium by chlorinating a mixture of thorium dioxide and charcoal from sugar with gaseous chlorine at 1000°C; chlorides of aluminum, iron and tantalum were prepared by chlorination of metals; chlorides of magnesium, calcium and cerium were obtained by the method indicated

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S/149/60/000/006/010/018
A006/A001

An Investigation of Interactions Between Thorium Chlorides and Chlorides of Magnesium, Calcium, Cerium, Aluminum, Iron, Niobium, Tantalum and Oxychloride of Niobium in Melts

in reference 5, and oxychloride of niobium by a method described in reference 6. The thermal analysis of the systems was made by the method of fusibility; the curves were recorded on a N. S. Kurnakov pyrometer. The $ThCl_4$ - $MgCl_2$, $ThCl_4$ - $CaCl_2$ and $ThCl_4$ - $CeCl_3$ systems have a fusibility diagram of the eutectic type (Figure 1). The eutectics contain 55.0 molecular % (82.8 weight %), 46.0 mol. % (74.2 weight %) and 60.6 mol. % (70.0 weight %) $ThCl_4$ respectively and melt at 610, 560 and 640°C. To confirm data obtained by thermal analysis and to reveal the possibility of separating and refining the chlorides, the authors carried out a tensiometric study of the aforementioned systems based on the measurement of vapor tensions over the systems, which were determined by the "flow" method. Chlorine was used as a carrier gas. Thorium in the sublimate was determined by a method given in Ref. 8 and 9 and the other elements by conventional methods. The method of tensiometry has been described in Ref. 10. The absence of a chemical reaction between the components and the difference in the vapor tensions can be used for the separation of chlorides by distillation.

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An Investigation of Interactions Between Thorium Chlorides and Chlorides of Magnesium, Calcium, Cerium, Aluminum, Iron, Niobium, Tantalum and Oxychloride of Niobium in Melts

The results of the tensiometric investigation are given below:

System	Content of $ThCl_4$ in the mixture in mol. %	°C	Vapor tension over the system $lgP = -\frac{A}{T} + B$, mm Hg		
			A	B	for chlorides
$ThCl_4$ - $MgCl_2$	22.9	700 - 820	6260	6.84	$ThCl_4$
$ThCl_4$ - $CaCl_2$	54.0	575 - 819	7210	8.26	"
$ThCl_4$ - $CeCl_3$	40.5	725 - 895	5700	6.63	"
$ThCl_4$ - $AlCl_3$	27.9	114 - 152	5020	13.7	Al_2Cl_6
$ThCl_4$ - $FeCl_3$	[illegible]	228 - 277	5825	12.5	Fe_2Cl_6
$ThCl_4$ - $NbCl_5$	[illegible]	105 - 188	3390	9.16	$NbCl_5$
$ThCl_4$ - [illegible]	74.3	[illegible] - 152	3660	8.54	$NbOCl_3$
$ThCl_4$ - [illegible]	49.0	110 - 192	3710	9.90	$TaCl_5$

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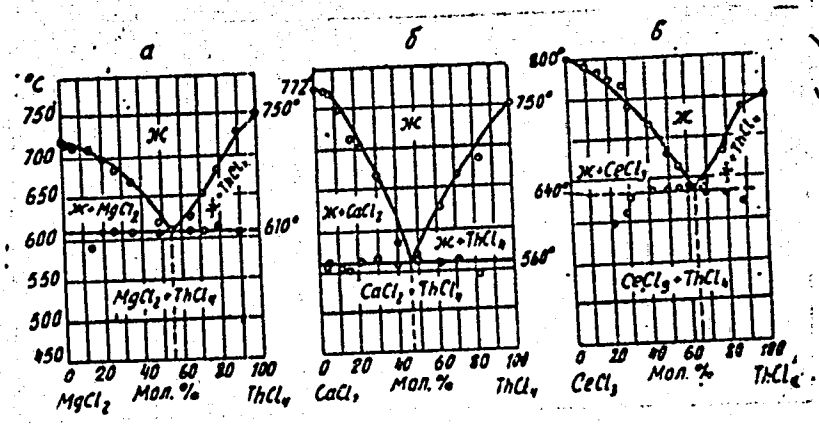
An Investigation of Interactions Between Thorium Chlorides and Chlorides of Magnesium, Calcium, Cerium, Aluminum, Iron, Niobium, Tantalum and Oxychloride of Niobium in Melts

Figure 1:
Fusibility diagram of the systems $ThCl_4$ - $MgCl_2$ (a); $ThCl_4$ - $CaCl_2$ (b) and $ThCl_4$ - $CeCl_3$ (c).



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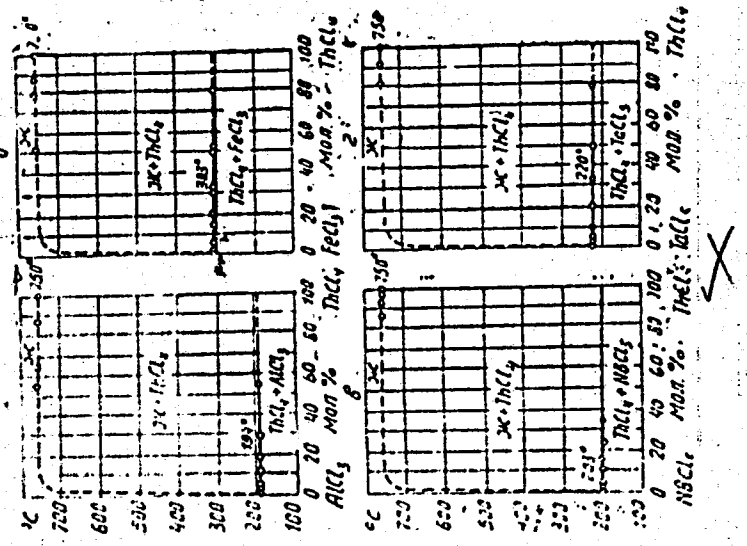
S/149/60/000/006/[illegible]/018
A006/A001

An Investigation of Interactions Between Thorium Chlorides and Chlorides of Magnesium, Calcium, Cerium, Aluminum, Iron, Niobium, Tantalum and Oxychloride of Niobium in Melts.

Figure 2:
Solubility diagram of the systems $ThCl_4$ - $AlCl_3$ (a), $ThCl_4$ - $FeCl_3$ (b), $ThCl_4$ - $NbCl_5$ (c), and $ThCl_4$ - $TaCl_5$ (d).



There are 4 figures and 10 references: 6 Soviet, 2 French, 1 German, 1 English

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86938
S/149/60/000/006/010/018
A006/A001

An Investigation of Interactions Between Thorium Chlorides and Chlorides of Magnesium, Calcium, Cerium, Aluminum, Iron, Niobium, Tantalum and Oxychloride of Niobium in Melts

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii (Moscow Institute of Fine Chemical Technology) Kafedra khimii i tekhnologii redkikh i rasseyannykh elementov (Department of Chemistry and Technology of Rare and Dispersed Elements)

SUBMITTED: January 28, 1960

Card 6/6

L 12965-63 EWP(j)/EPF(c)/EWT(m)/BDS AFFTC/ASD Pc-4/Pr-4 RM/WW

ACCESSION NR: AP3000394 S/0191/63/000/005/0007/0010

72
70

AUTHOR: Zarubin, G. G.; Rubtsova, I. K.; Smirnov, M. I.; Pertsov, L. D.; Dolgov, F. F.; Kokorev, V. V.; Zhilina, R. D.

TITLE: Use of alkylarylphosphates for plasticizing polyvinylchloride

15

SOURCE: Plasticheskiye massy*, no. 5, 1963, 7-10

TOPIC TAGS: alkylarylphosphates, polyvinylchloride, plasticizers, esters, calendar method, sodium salts

ABSTRACT: The plasticizing qualities of DAFF (mixed ester of phenylphosphoric acid and 2-ethylexyl alcohol), prepared by a technique developed at NIIPM from phenol, phosphoryl chloride, and 2-ethylhexyl alcohol, are compared to those of several other esters of phosphoric acid obtained in normal C sub 7 - C sub 9 alcohols and C sub 6 - C sub 8 isoalcohols and with the widely used plasticizers tricresylphosphate (TCP) and dibutylphthalate (DBP). The dialkylphenylphosphates are recommended as substitutes for the two latter plasticizers for obtaining soft fire- and frost-resistant polyvinylchloride plastics suitable for fabric base preparation by the calendar method. DAFF and the dialkylphosphates were superior in frost-resistance to DBP and TCP; they were more fire-resistant than DBP, but less so than TCP. The physico-mechanical properties of the individual dialkylphenylphosphates were

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L 12965-63
ACCESSION NR: AP3000394

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not markedly different, though plasticizers containing a larger number of aryl groups yielded plastics which were less flammable but which had poorer frost-resistance. Increasing the amount of plasticizer used reduced the toughness of the resultant plastic by about 50%, but increased its frost-resistance. Lowering treatment temperature from 140 to 120C also decreased toughness. The presence of up to 50% sodium salts in DAFF had little effect on plasticizing conditions; larger amounts reduced plasticizer-polyvinyl-chloride compatibility and reduced the toughness and frost-resistance of the resultant plastic. Orig. art. has: 4 figures, 5 formulas, 2 tables.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 10Jun63 ENCL: 00

SUB CODE: MA NO REF SOV: 002 OTHER: 009

Card 2/2

ZARUBIN, G.G.; RUBTSOVA, I.K.; SMIRNOV, M.I.; PERTSOV, L.D.; DOLGOV, F.F.; KOKOREV, V.V.; ZHILINA, R.D.

Using alkyl aryl phosphates for plasticizing polyvinyl chloride. (MIRA 16:6)
Plast.massy no.5:7-10 '63.
(Vinyl compound polymers) (Phosphoric acid) (Plasticizers)

KOKOREV, V., nachal'nik.

For continuing wide-spread use of mechanical refrigeration. Khol.tekh. 30 no.2:1-6 Ap-Je '53. (MLRA 6:7)

1. Glavkholod. (Refrigeration and refrigerating machinery)

KOKOREV, V.

Construction of cold storage warehouses in 1959-1965 [with summary in English]. Khol.tekh. 35 no.6:1-3 N-D '58. (MIRA 12:1)

1. Chlen kollegii Ministerstva torgovli SSSR.
(Cold storage warehouses)

IONOV, V.I.; KORSHUNOV, B.G.; KOKOREV, V.V.; MOROZOV, I.S.

Physicochemical study of the interaction of thorium chloride with alkali-metal chlorides and cerium if melts. Izv. vys. ucheb. zav.; tsvet. met. 3 no.3:102-107 '60. (MIRA 14:3)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii, Kafedra khimii i tekhnologii redkikh i rasseyannykh elementov.
(Thermal analysis) (Chemistry, Metallurgic)

KOKOREV, V. Y.

"The Design and Operation of the Air Jacket of the Moscow Cold Store no. 12."

Report submitted for the 10th Intl. Refrigeration Congress, Copenhagen, 19 August - 2 September 1959.

Kokorev, V. Ya.

14(1) SOV/66-59-4-19/28

AUTHOR: None Given

TITLE: All-Union Scientific Technical Convention on Refrigeration Engineering

PERIODICAL: Kholodil'naya tekhnika, 1959, Nr 4, pp 61-65 (USSR)

ABSTRACT: Under the auspices of the Leningradskiy tekhnologicheskiy institut kholodil'noy promyshlennosti (Leningrad Technological Institute of Refrigeration Industry), of the Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti im. Mikoyana (All-Union Scientific Research Institute of Refrigeration Industry im. Mikoyan) and of the Vsesoyuznaya sektsiya kholodil'shchikov (All-Union Section of Refrigeration Workers), a convention was held in Leningrad from the 6 through 9 August, 1959, which was attended by 534 people. Below are given the names of the principal lecturers, the names of the institutions they represent and the titles of their lectures: V.Ya. Kokorev (Ministry of Trade of the RSFSR) "Tasks of Development and of Application of Refrigeration in the National Economy of the USSR"; T.V. Gogolina, Engineer (Central Designing Bureau of Refrigeration Machine Building) "Fields of Application of Refrigeration Equipment in Industry"; V.P. Irzhevskiy, Engineer (Odessa Designing Institute of Complex Automation of Production

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All-Union Scientific Technical Convention on Refrigeration Engineering

Processes in the Food Industry) "Orientation and Designing of Automatic Systems in Refrigeration Installations"; B.L. Tsyrlin, Engineer (VNIKhI) "Investigation of the Work of Compressors of the Piston Block-Crankcase Type"; V.B. Yakobson, Candidate of Technical Sciences (VNIKhI) "Investigation of Small Freon Compressors With Built-in Electric Motors"; D.M. Ioffe, Candidate of Technical Sciences (VNIKhI) "Analysis and Investigation of Heat-Exchanging Machinery with a Ribbed Heat Transmitting Surface"; L.M. Rozenfel'd, Professor and Doctor of Technical Sciences (Leningrad Technological Institute of Refrigeration Industry) "The Problem of Complete Utilization of Refrigeration Machines"; V.S. Martynovskiy, Professor and Doctor of Technical Sciences and B.B. Paruleykar, Professor (Odessa Technological Institute of Food and Refrigeration Industries) "Thermal Air Separation at the Cold End of the Vortex Tube"; I.P. Usyukin, Professor and Doctor of Technical Sciences (Moscow Institute of Chemical Machine Building) "Results of the Two Years Working Period of the Installation BR-1 and the Prospects of Producing Technological Oxygen"; A.I.Moroz, Candidate of Technical Sciences and B.V. Denishchuk, Engineer (VNII of Oxygen Machine Building); K.I. Strakhovich, Professor and G.E. Ozhigov, Candidate of Technical Sciences (Leningrad Technological Institute of Re-

All-Union Scientific Technical Convention on Refrigeration Engineering

frigeration Industry) "Theoretical Investigation of Expansion of Moist Vapor of the Air Turbo-Pressure-Reducer"; A.A. Gogolin, Candidate of Technical Sciences (VNIKhI) "Ways of Developing Air Conditioning Engineering in the USSR"; A.L. Satanovskiy, Engineer (Institute of Thermal Power Engineering of the AS USSR) "Air-Water-Evaporation Cooling and Air Conditioning on the Cranes in Hot Workshops"; L.K. Lozina-Lozinskiy, Professor and Doctor of Biological Sciences (Institute of Cytology of the AS USSR) "The Latest in the Doctrine Pertaining to the Influence of Low Temperatures on Organisms"; N.A. Golovkin, Professor and Doctor of Technical Sciences (Leningrad Technological Institute of Refrigeration Industry) "Mechano-Chemistry of the Muscular Tissue Under Refrigeration Processes of Food Products of Animal Origin"; D.G. Ryutov, Candidate of Technical Sciences and P.A. Alekseyev, Candidate of Technical Sciences (VNIKhI) "Conditions of Storage and Weight Losses of Frozen Meat in a Cold Room with Jacket Heat Protection"; A.P. Sheffer, Candidate of

Card 3/4

All-Union Scientific Technical Convention on Refrigeration Engineering

Technical Sciences and A.G.Saatchan (All-Union Scientific Research Institute of Meat Industry) "Single-Stage Freezing of Meat"; A.P. Chernogortsev (Astrakhan' Technical Institute of Fish Industry) "Proteolysis of Sprats and the Influence of Temperature on the Terms of Ripening and Storage of Sprat Preserves".

Card 4/4

KOKOREV, V.

Developments in refrigeration. Sov.torg. 33 no.3:14-20 Mr '60. (MIRA 13:6)

1. Chlen kollegii Ministerstva torgovli RSFSR.
(Refrigeration and refrigerating machinery)

Kokorev, Yu

KOKOREV, Yu., polkovnik

An outstanding military leader of the Stalin school. Voen.-inzh. zhur.94 no.10:16-22 O '50. (MIRA 10:12)
. . . (Frunze, Mikhail Vasil'evich, 1885-1925)

KOKOREVA, A.A.

Strengthen the role of scientific and technical associations in technical progress. Mech.transp. 16 no.5:32 My '57. (MLRA 10:5)

(Inland water transportation)

KOKORINA, A.

Erect more athletic facilities in villages. Sel'. stroi. 12 no.7: 1-2 Jl '57. (MLRA 10:8)

1. Predsedatel' Presidiuma Tsentral'nogo Soveta dobrovol'nogo sel'skogo sportivnogo obshchestva "Urozhay" Rossiyskoy Federatsii.
(Stadiums) (Athletic fields)

KOKOREVA, A.

Rural athletes build sports structures. Sel'. stroi. 13 no. 9:14-15 S '58. (MIRA 11:10)

1. Predsedatel' Prezidium TSentral'nogo Soveta dobrovol'nogo sel'skogo sportivnogo obshchestva "Urozhay" Rossiyskoy Federatsii.
(Stadiums)
(Gymnasiums)

IVANCHIKOVA, M.; KOKOREVA, A.

Food industry products. Sov. torg. no.8:30-35 Ag '56. (MLRA 9:10)

(Food industry)

ANISIMOVA, Anna Semenovna; BUDA, Faina Martim'yanovna; KOKOREVA, Anna Aleksandrovna; BORISOVA, G.A., red.; MAMONTOVA, N.N., tekhn. red.; EL'KINA, E.M., tekhn. red.

[Receiving, determining the quality, and the simplest organoleptic method for analyzing meat, fish and milk products] Priemka, opredelenie kachestva i prosteishie organolepticheskie metody issledovaniia miasnykh, rybnykh i molochnykh tovarov. Moskva, Gostorgizdat, 1962. 247 p. (MIRA 16:3)
(Food—Analysis)

L 16473-66 EWT(m)/EWP(v)/T/EWP(t)/EWP(k) JD/HM

ACC NR: AR6009961 SOURCE CODE: UR/0137/65/000/012/E039/E039

AUTHOR: Ushakova, S. Ye.; Kokoreva, I. I.

ORG: none

TITLE: Vacuum diffusion welding

SOURCE: Ref. zh. Metallurgiya, Abs. 12E306

REF SOURCE: Sb. Lit'ye i obrabotka splavov chern. i tsvetn. met. Krasnoyarsk, 1965, 182-186

TOPIC TAGS: diffusion welding, vacuum welding, pipe structural hardware

ABSTRACT: The authors describe the advantages and fields of application for vacuum diffusion welding. Materials are pointed out which can be welded only by this method. The use of vacuum diffusion welding for making pipe elbows, swivel joints, and flanges, couplers and Y-bolts is considered. M. Frolova [JPRS]

SUB CODE: 13

Card 1/1

UDC: 621.791.89:669.14.018

L 29157-66 EWP(k)/EWT(m)/T/EWA(d)/EWP(v)/EWP(t)/ETI IJP(c) JD/HM
ACC NR: AP6018662 SOURCE CODE: UR/0125/66/000/003/0077/0077

AUTHOR: Ushakova, S. Ye.; Zaselyan, B. N.; Kokoreva, I. I.
ORG: none
TITLE: Microscopic investigation of joints made by diffusion welding in a vacuum
SOURCE: Avtomaticheskaya svarka, no. 3, 1966, 77

TOPIC TAGS: diffusion welding, vacuum welding, copper, steel, electron microscope, welding technology/M2T copper, 30 KhGSA steel, JEM-5Y electron microscope
ABSTRACT: Vacuum diffusion welding is one of the most promising methods for joining metals. M2T copper, M2T copper with 30KhGSA steel and 30KhGSA steel alone were compared to study methods for investigation of the diffusion layer. The experimental SDVU-6 installation was used for welding. The weld zone of the specimens was first studied on an MIN-8 metallographic microscope (150-900X). A JEM-5Y electron microscope was used for a more detailed study. This instrument gives images with a resolution of 8-10 Å for studying the structure of metals and alloys with a magnification of 300-200,000. Chromium-dyed carbon film replicas were used in the electron microscope studies. The magnification was increased gradually through small intervals for a more accurate study. The quality of a joint made from homogeneous materials (30KhGSA steel) produced by diffusion welding in a vacuum is difficult to determine at small magnifications. For instance, incomplete welding is barely distinguishable at 150-200X, but become clearly visible at 600-900X. It is impossible to find the joint in copper specimens at low magnification, the boundary appears only at

Card 1/2 UDC: 621.791.89:533.5

L 29157-66

ACC NR: AP6018662

600-900X. The diffusion layer is very similar in structure to the grain boundaries in copper. Thus, low magnifications (150-300X) when studying specimens made up of homogeneous materials may result in erroneous conclusions on the quality of the weld. The boundary in specimens welded from two dissimilar materials (30KhGSA steel and M2T copper) is clearly visible to the unaided eye. A dark strip with bulges is visible at low magnifications (150-300X) giving the impression of incomplete welding. Higher magnifications reveal that this strip is a transition layer. The diffusion layer has a structure which differs sharply from that of steel and is similar to the structure of copper although somewhat denser. In two copper specimens, the diffusion layer for the most part is a continuation of the copper grains in one specimen. The diffusion layer is sometimes extremely small, but in most cases it is of considerable size. The diffusion layer of a copper-copper joint is 3 or 4 times as broad as the copper-steel layer, but has a structure similar to that of copper. Extremely high mangifications (50,000X) cannot be used for judging welding results. In this case the transition from the diffusion layer to the base metal is insufficiently sharp. Magnifications from 600-900 to 10,000-15,000 are optimum for determining the quality of vacuum diffusion welding. Orig. art. has: 2 figures. /JPRS/

SUB CODE: 13, 11 / SUBM DATE: none

Card 2/2 AC

KOKOREVA, I.Yu.

Dipole moments of stereo isomers c
2-methyl-4-ketooctahydro-1-pyrindine. Zhur.strukt.khim. 5
no. 2:314 Mr-Ap '64. (MIRA 17:6)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni I.V.Lomonosova.

KOKOREVA, I.Yu.; NEYMAN, L.A.; SYRKIN, Ya.K.; KIRILLOVA, S.I.

Dipole moments of certain nitrones. Dokl. AN SSSR 156 no.2: 412-414 My '64. (MIRA 17:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova i Institut biologicheskoy i meditsinskoy khimii AMN SSSR. 2. Chlen-korrespondent AN SSSR (for Syrkin).

KARTSEV, G.N.; KOKOREVA, I.Yu.; SYRKIN, Ya.K.; MIRONOV, V.F.; CHERNYSHEV, Ye.A.

Dipole moments of organic compounds with a Si-Si bond. Zhur. strukt. khim. 6 no.2:309-310 Mr-Ap '65. (MIRA 18:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

L 18014-66 EWT(m)/EWP(1)/T WW/JW/RM

ACC NR: AP6003495 (N) SOURCE CODE: UR/0020/66/166/001/0155/0157

AUTHOR: Kokoreva, I. Yu.; Syrkin, Ya. K.; Kropacheva, A. A.; Kashnikova, N. M.; Mukhina, L. Ye.

ORG: none

TITLE: Dipole moments of phosphonitrile chloride derivatives

SOURCE: AN SSSR. Doklady, v. 166, no. 1, 1966, 155-157

TOPIC TAGS: dipole moment, phosphonitrile, organic nitrogen compound, organic phosphorus compound, organic imine compound

ABSTRACT: The dipole moments of phosphonitrile chloride trimer and 17 of its derivatives of the pyrrolidine, piperidine, morpholine, and ethylenimine series were measured in dilute benzene solutions at 25° by the heterodyne method. Atomic polarization was not taken into account, so that the true values are somewhat lower than the tabulated ones. The dipole moment of phosphonitrile chloride trimer is 0.93 D. In the hexa-derivatives studied, the presence of substituents is thought to distort the plane of the ring, causing an increase in the dipole moment (1.75 D for the hexapyrrolidine and 1.16 D for the hexapiperidine

Card 1/2 UDC: 541.67

derivatives). In the case of the mono-derivatives, the dipole moment of the trimer differs markedly from the moments of the monopyrrolidyl (3.74 D), monopiperidyl (3.67 D), monoethylenimyl (3.07 D), and monomorpholyl (1.91 D) derivatives. This substantial difference is attributed to the fact that phosphorus accepts the unshared pair of electrons of the nitrogen of the substituent in its 3d subshell. Orig. art. has: 1 table.

SUB CODE: 07 / SUBM DATE: 08Jul65 / ORIG REF: 001 / OTH REF: 006

KUSAKIN, N.D.; SIGAREV, A.M.; ZVYAGINA, Ye.V.; Prinimali uchastiye: DOTSENKO, A.M.; KOKOREVA, M.A.; LYUBIMOVA, E.M.; SEMENOVA, L.V.

Investigating the gaseous medium surrounding carbon-graphite blanks during their baking in a multiple compartment ring kiln. TSvet. met. 37 no.10:51-54 O '64. (MIRA 18:7)

KOKOREVA, N.I.

PHASE I BOOK EXPLOITATION SOV/4984

International symposium on macromolecular chemistry. Moscow, 1960.

Mezhdunarodnyy simpozium po makromolekulyarnoy khimii SSSR, Moskva, 14-18 iyunya 1960 g.; doklady i avtoreferaty. Sektsiya III. [International Symposium on Macromolecular Chemistry Held in Moscow, June 14-18, 1960; Papers and Summaries] Section III. [Moscow, Izd-vo AN SSSR, 1960] 469 p. 55,000 copies printed.

Tech. Ed.: P. S. Kashina.

Sponsoring Agency: The International Union of Pure and Applied Chemistry. Commission on Macromolecular Chemistry.

PURPOSE: This book is intended for chemists interested in polymerization reactions and the synthesis of high molecular compounds.

COVERAGE: This is Section III of a multivolume work containing papers on macromolecular chemistry. The articles in general deal with the kinetics of polymerization reactions, the synthesis of special-purpose polymers, e.g., ion exchange resins, semiconductor materials, etc., methods of catalyzing polymerization reactions, properties and chemical interactions of high molecular materials, and the effects of various factors on polymerization and the degradation of high molecular compounds. No personalities are mentioned. References given follow the articles.

40

KHRAMCHENKOV, V.A.; KOKOREVA, Ye.N.; BURAK, I.N.

Exchange of experience. Zav.lab. 28 no.11:1355 '62.
(MIRA 15:11)

1. Voronezhskiy gosudarstvennyy universitet (for Burak).
(Molecular weights)

BABENKO, Vladimir Grigor'yevich[Babenko, V.H.]; KOKOREVA, Ye.P., red.; SHEVCHENKO, M.G.[Shevchenko, M.H.], tekhn. red.

[Tractor operator is not the same anymore; essay on machinery operators on collective farms]Ne toi teper traktorvst; narys pro kolhospnykh mekhanizatoriv. Kharkiv, Kharkivs'ke knizhkove vyd-vo, 1962. 71 p. (MIRA 15:11)
(Agricultural workers)

KOKOREVA, Yu.I. KAZAKOVA, V.M.

Dipole moments of o- and p-isobornylcresols and their bromides. Zhur. ob. khim. 31 no. 2:371-372 F '61. (MIRA 14:2)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.

(Cresol—Dipole moments)

AUTHOR: Kokorin, A., Candidate of Technical Sciences SOV/66-59-1-6/32

TITLE: Heat Exchangers Made of Tubes With Wire Ribs (Teploobmenniki iz trubok s provolochnymi rebrami)

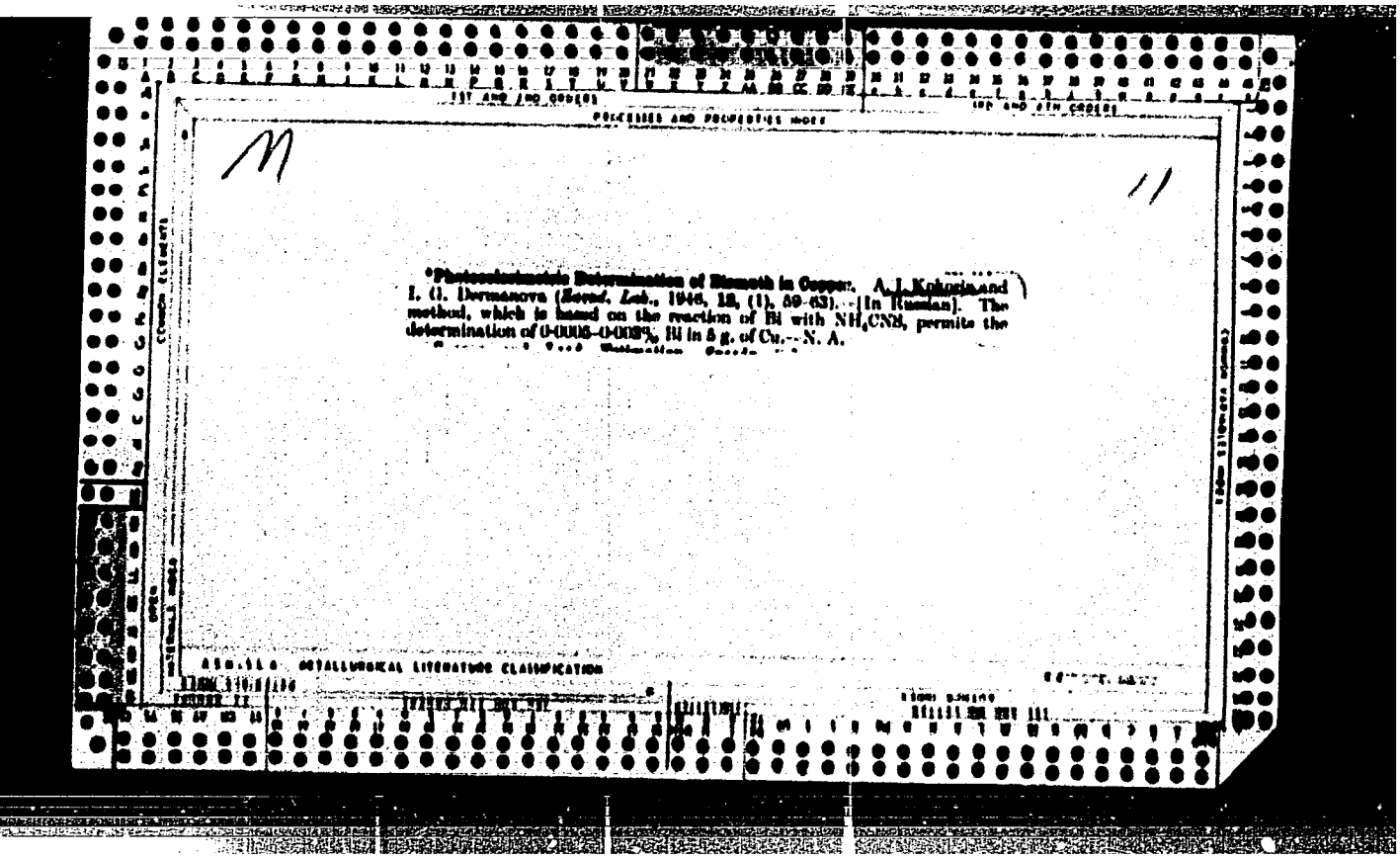
PERIODICAL: Kholodil'naya tekhnika, 1959, Nr 1, pp 27-31 (USSR)

ABSTRACT: The NIIST (Scientific Research Institute of Sanitation Engineering of the USSR Academy of Construction and Architecture) has developed 6 types of noiseless air cooling units equipped with wire ribbed tubes. These are wound in spiral form on brass tubes 19 x 1 mm. At the bottom the spiral is soldered to the tube. The article describes the testing of such units, revealing that the heat transfer coefficient of these appliances is much greater than that of the equipment with lamellar cooling ribs. Experiments have been conducted with wire ribs of different shape; in unit KD-26 for instance the ribs are made of brass strips which are wound in spiral form on copper tubes 18 x 1 mm. Tests with KD-26 and KD-29 units were made under the same initial parameters and using the same amount of air and water. Results of the tests are shown in a comparative table, from which it can be seen that the general amount of heat given out by 1 m^2 of heat exchanging surface of KD-29 unit exceeds 1.6 times, and the amount of dry heat exceeds 1.8 times the output of KD-26 unit. The change in heat and

Card 1/2

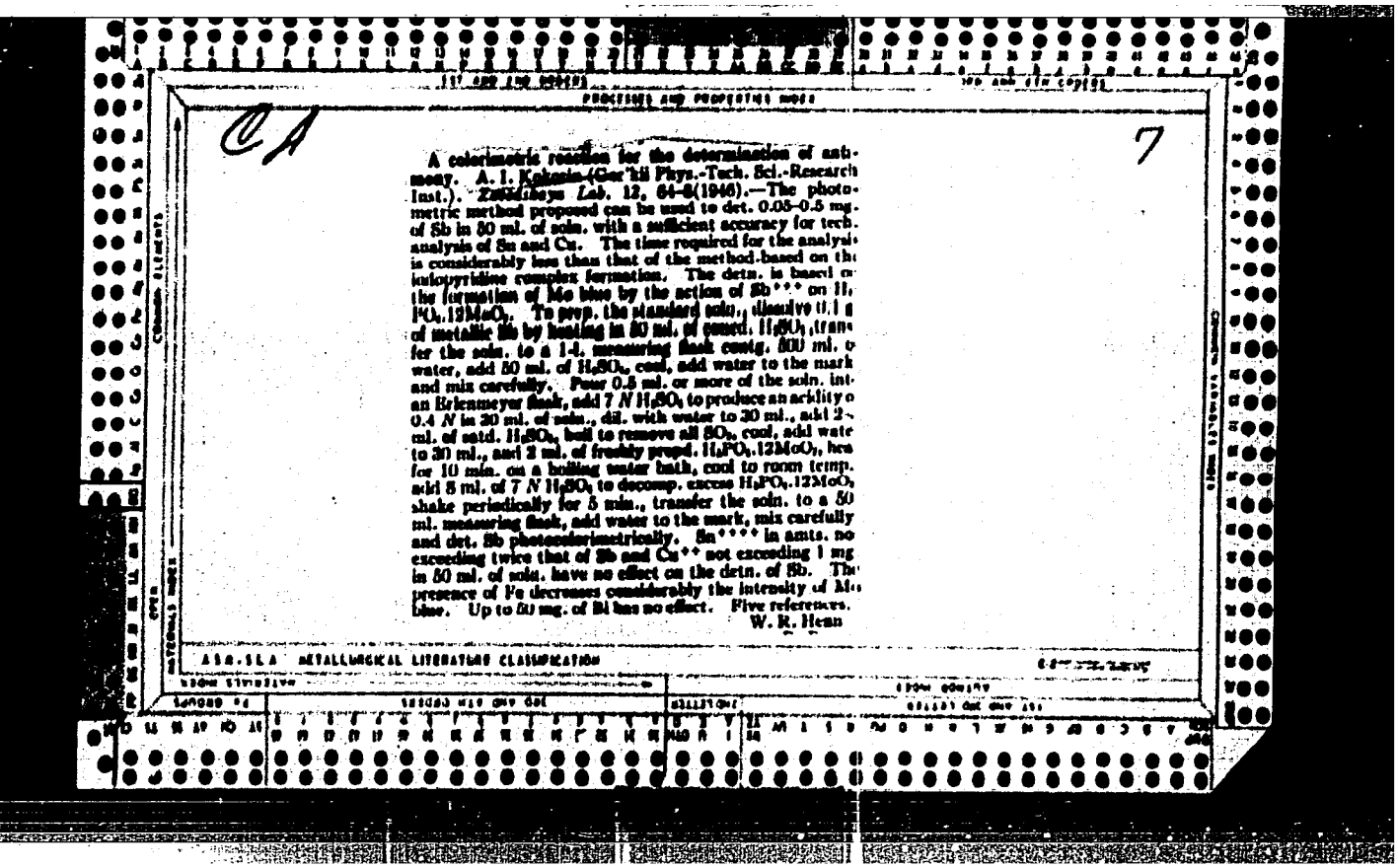
moisture of the air are shown in Graph 7. One of the operational indices of air coolers is the extent to which moisture is collecting on the ribs, the evaporation of which provokes undesirable humidification of the air after the cold water feed has been shut off. The article contains recommendations as to how this humidification can be avoided.
There are 7 graphs, 1 table, and 4 Soviet references.

ASSOCIATION: Nauchno-issledovatel'skiy institut santekhniki Akademii stroitel'stva i arkhitektury SSSR (Scientific Research Institute of Sanitation Engineering of the USSR Academy of Construction and Architecture)



*Photoelectronic Determination of Bismuth in Copper. A. I. Kholmin and I. G. Dormanova (*Zavod. Lab.*, 1946, 12, (1), 59-63). [In Russian]. The method, which is based on the reaction of Bi with NH_4CNS, permits the determination of 0·0005-0·003% Bi in 5 g. of Cu.—N. A.

METALLURGICAL LITERATURE CLASSIFICATION

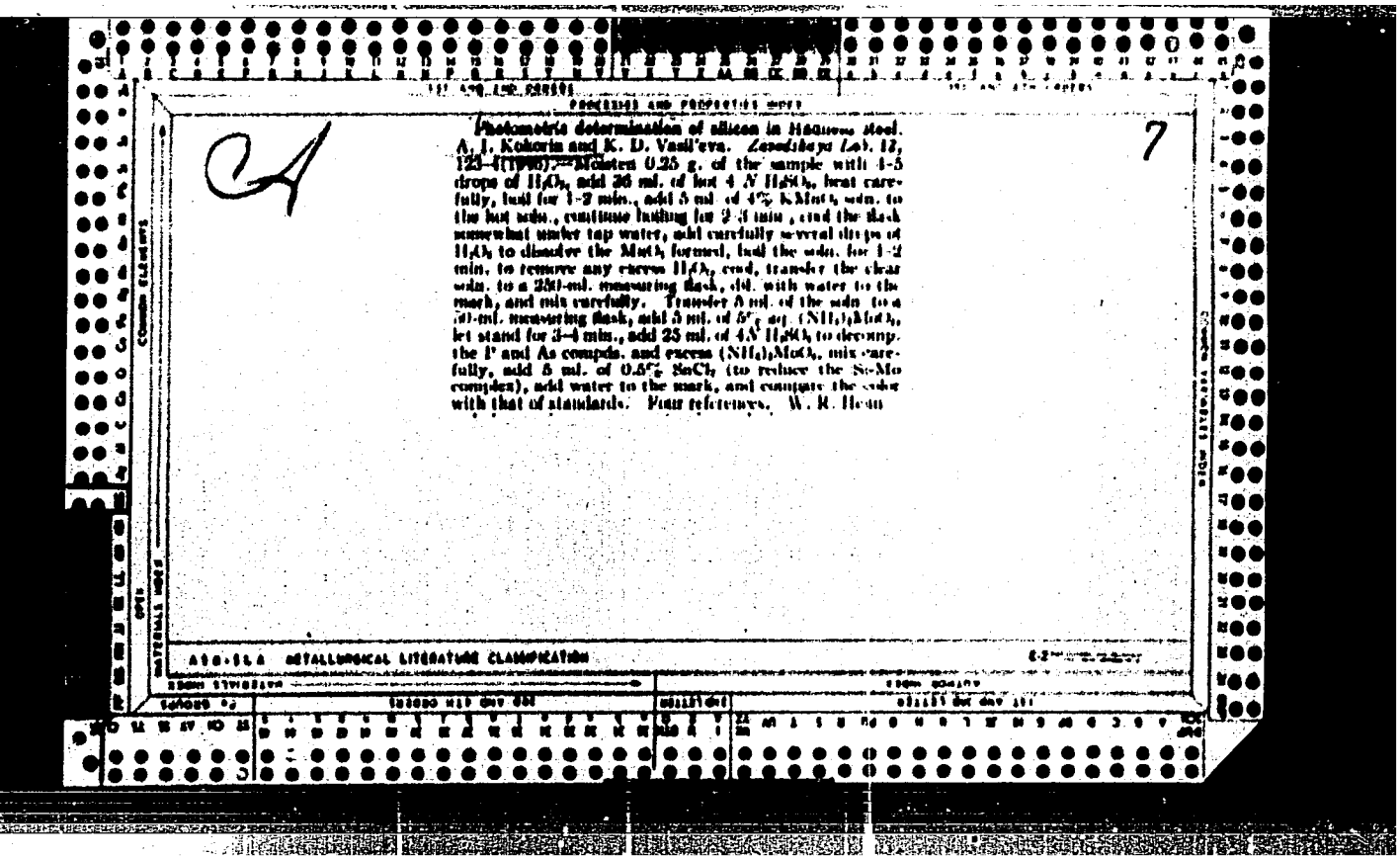


CA 7

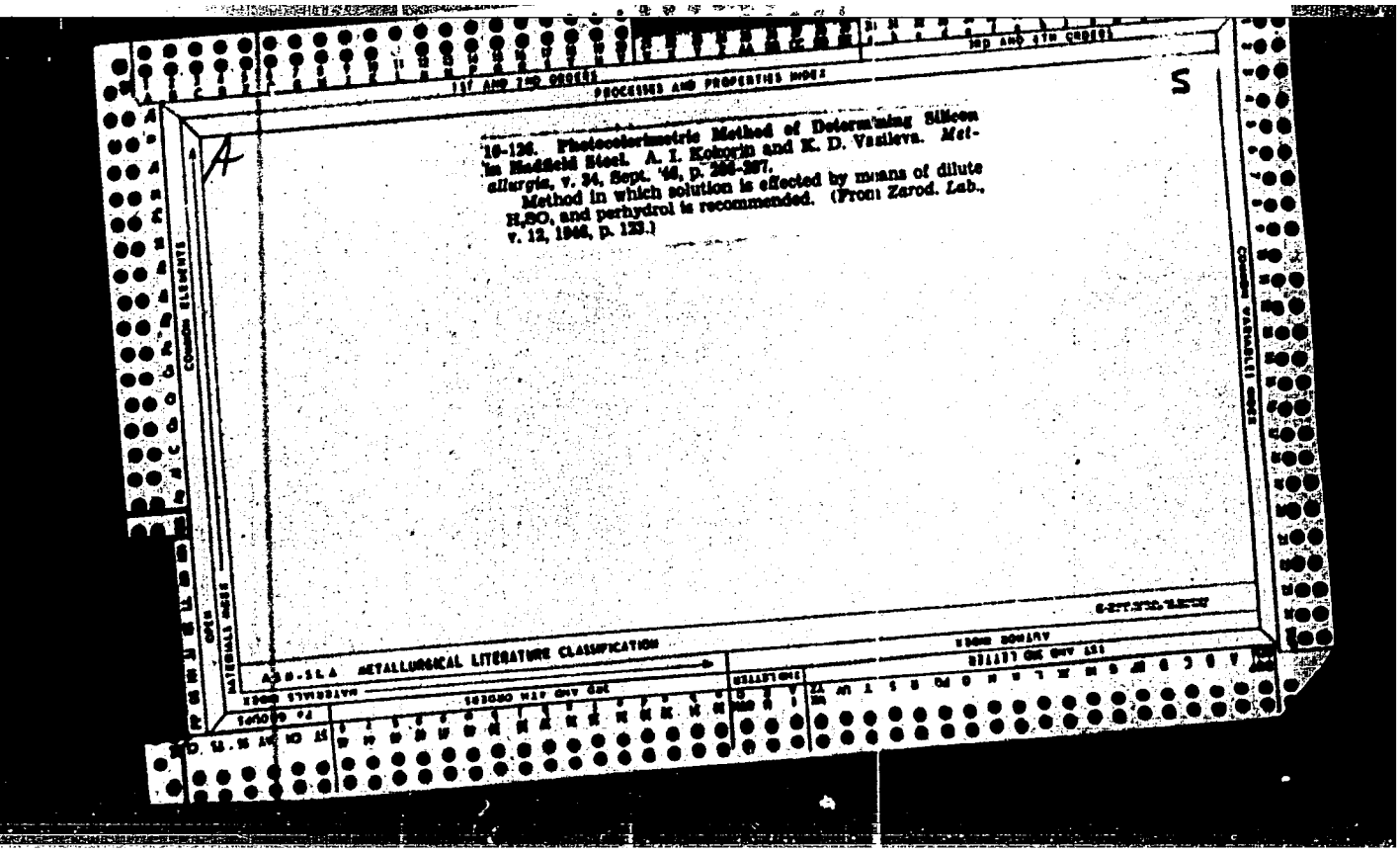
A colorimetric reaction for the determination of antimony. A. I. Kokanin (Gor'kii Phys.-Tech. Sci.-Research Inst.). *Zavodskaya Lab.* 12, 64–8(1946).—The photometric method proposed can be used to det. 0.05–0.5 mg. of Sb in 50 ml. of soln. with a sufficient accuracy for tech. analysis of Sn and Cu. The time required for the analysis is considerably less than that of the method based on the iodopyridine complex formation. The detn. is based on the formation of Mo blue by the action of Sb^{+++} on $H_3PO_4.12MoO_3$. To prep. the standard soln., dissolve 0.1 g. of metallic Sb by heating in 50 ml. of concd. H_2SO_4, transfer the soln. to a 1-l. measuring flask contg. 500 ml. of water, add 50 ml. of H_2SO_4, cool, add water to the mark and mix carefully. Pour 0.5 ml. or more of the soln. into an Erlenmeyer flask, add 7 *N* H_2SO_4 to produce an acidity of 0.4 *N* in 20 ml. of soln., dil. with water to 30 ml., add 2 ml. of satd. H_2SO_4, boil to remove all SO_2, cool, add water to 30 ml., and 2 ml. of freshly prepd. $H_3PO_4.12MoO_3$, heat for 10 min. on a boiling water bath, cool to room temp., add 5 ml. of 7 *N* H_2SO_4 to decomp. excess $H_3PO_4.12MoO_3$, shake periodically for 5 min., transfer the soln. to a 50 ml. measuring flask, add water to the mark, mix carefully and det. Sb photocolorimetrically. Sn^{++++} in amts. not exceeding twice that of Sb and Cu^{++} not exceeding 1 mg. in 50 ml. of soln. have no effect on the detn. of Sb. The presence of Fe decreases considerably the intensity of Mo blue. Up to 50 mg. of Bi has no effect. Five references.

W. R. Heun

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



Photometric determination of silicon in titanium steel. A. I. Kokorin and K. D. Vasil'eva. *Zavodskaya Lab.* 12, 123–4(1946).—Moisten 0.25 g. of the sample with 4–5 drops of H_2O_2, add 20 ml. of hot 4 *N* H_2SO_4, heat carefully, boil for 1–2 min., add 5 ml. of 4% $KMnO_4$ soln. to the hot soln., continue boiling for 2–3 min., cool the flask somewhat under tap water, add carefully several drops of H_2O_2 to dissolve the MnO_2 formed, boil the soln. for 1–2 min. to remove any excess H_2O_2, cool, transfer the clear soln. to a 250-ml. measuring flask, dil. with water to the mark, and mix carefully. Transfer 5 ml. of the soln. to a 50-ml. measuring flask, add 5 ml. of 5% aq. $(NH_4)_2MoO_4$, let stand for 3–4 min., add 25 ml. of 4*N* H_2SO_4 to decomp. the P and As compds. and excess $(NH_4)_2MoO_4$, mix carefully, add 5 ml. of 0.5% $SnCl_2$ (to reduce the Si-Mo complex), add water to the mark, and compare the color with that of standards. Four references. W. R. Heun



10-126. Photocolorimetric Method of Determining Silicon in Hadfield Steel. A. I. Kotorin and K. D. Vasileva. *Metallurgia*, v. 34, Sept. '46, p. 284-287.
Method in which solution is effected by means of dilute H_2SO_4 and perhydrol is recommended. (From Zavod. Lab., v. 12, 1946, p. 123.)

KOKORIN, A. I.

Photometric determination of phosphorus in stainless high-chromium steel EYal by the compensation method. A. I. Kokorin. *Zavodskaya Lab.* 12, 125-7(1946).—Dissolve 0.2 g. of metal in 5 ml. of aqua regia and evap. twice with added HNO_3. Add a little $AgNO_3$, H_2SO_4, and 3 g. of $(NH_4)_2S_2O_8$ and boil 10 min. with addn. of a little HCl. Neutralize with NH_4OH until some $Fe(OH)_3$ is formed. Filter off the AgCl but dissolve the ppt. of $Fe(OH)_3$ + $FePO_4$ in a little HCl. To suitable aliquots, add Na_2SO_3 to reduce Fe^{+++}, boil, cool under the water tap, add 6 ml. of 4 *N* HCl. To one portion add 4 ml. of 5% $(NH_4)_6Mo_7O_{24}.4H_2O$ soln. and measure the Mo blue color against the same soln. which has not been treated with molybdate. A somewhat modified procedure is used when $KMnO_4$ is used to oxidize the Cr. W. R. H

(1)
3

KOKORIN, A. I.

PA 163T56

USSR/Metals - Copper
Chemistry - Antimony, Determination
Jun 50

"Photoelectric Semimicro Determination of Antimony in Copper," A. I. Kokorin, Kishinev State U

"Zavod Lab" Vol XVI, No 6, pp 669-672

Suggests simplified photocolorimetric semimicro method for determination of antimony in copper, in which sample for highest grades of copper may be decreased to 0.25 g, bringing down considerably consumption of hypophosphite, a very expensive reagent. Describes simple photoelectric microcolorimeter with silver sulfide photocell, constructed by

163T56

USSR/Metals - Copper (Contd) Jun 50

Kokorin. Complete analysis by this method may be executed in 3 hr. Relative error during experiments did not exceed 10%.

163T56

KOKORIN, A. I.

166754

USSR/Metals - Steel, Acid-Resisting Jul 50
Chemistry - Analysis, Steel

"Photoelectric Semimicrodetermination of Titanium in Acid-Resisting Steel," A. I. Kokorin, Kishinev State U

"Zavod Lab" Vol XVI, No 7, pp 777-780

Suggests reaction, based on reduction of silicomolybdate with trivalent titanium, for quantitative colorimetric determination of titanium. Method developed for photoelectric semimicrodetermination permits determination of titanium at contents of 0.04 - 0.2%

166754

USSR/Metals - Steel, Acid-Resisting (Contd) Jul 50

mg in 5 ml of solution under analysis. In comparison with photoelectric macrodetermination of titanium, analysis procedure is considerably accelerated due to decreasing sample of steel to 0.05 g.

166754

Kokorin, A.I. [redacted] USSR.

Variation of the [redacted] analysis. A. I. Kokorin. *Uchenye Zapiski Kishinev. Univ.* [...] *Referat. Zhur., Khim.* 1956, No. 32880.—Ts a soln. to be tested for NH_4^+, Fe^{++}, Fe^{3+}, Cl^-, Ag^+, Hg^+, and Pb^{++} add HCl. The ppt. (1st) will contain Ag and part of the Hg and Pb; the remaining cations will be in soln. (2nd). Treat the 2nd soln. with dil. HNO_3 to complete removal of Cl. The ppt. (3rd) will contain Sb and Sn. Dissolve the ppt. in 6*N* HCl and det. the constituents by known reactions. Neutralize soln. (4th) (after removal of Sb and Sn) with $(NH_4)_2CO_3$, add NH_4Cl (1-1.5 g. per 50 ml. of analyzed soln.), and add the mixt. to an equal vol. of concd. NH_4OH while stirring, after which add a slight excess of $(NH_4)_2HPO_4$. The ppt. (5th) will contain Bi, Fe, Al, Cr, Pb, Mn, Ba, Sr, Ca, and Mg, and in soln. (6th) remain Hg, Cu, Cd, Ni, Co, Zn, K, and Na. To the ppt. (5th) add a 20% soln. of urotropine and 2*N* HCl taken in vol. ratios of 4:1 in the presence of $Fe(NO_3)_3$. The ppt. (7th) contains Bi, Fe, Al, and Cr, in soln. (8th) [redacted] Pb, Mn, Ba, Sr, Ca, and Mg. Dissolve the last

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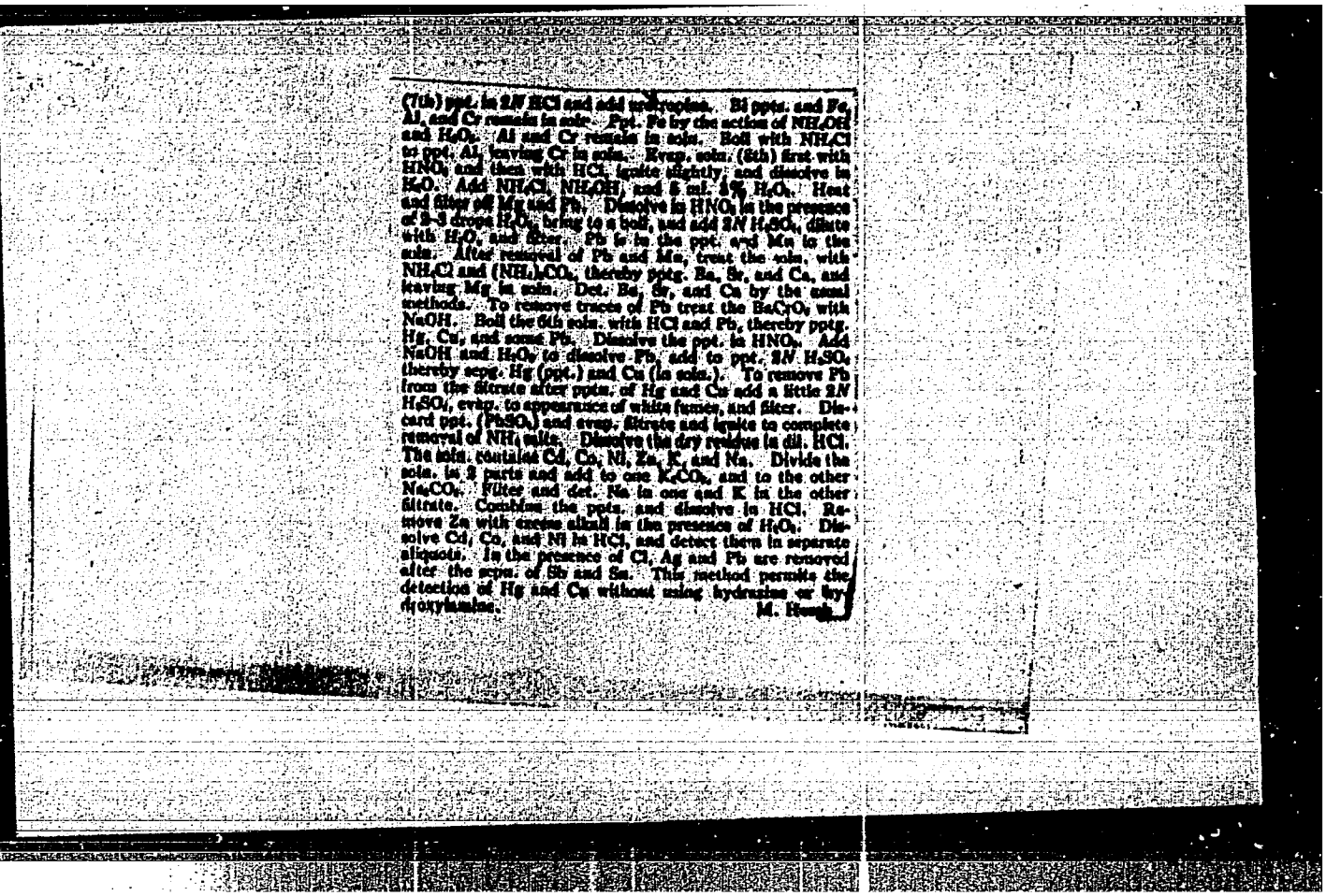
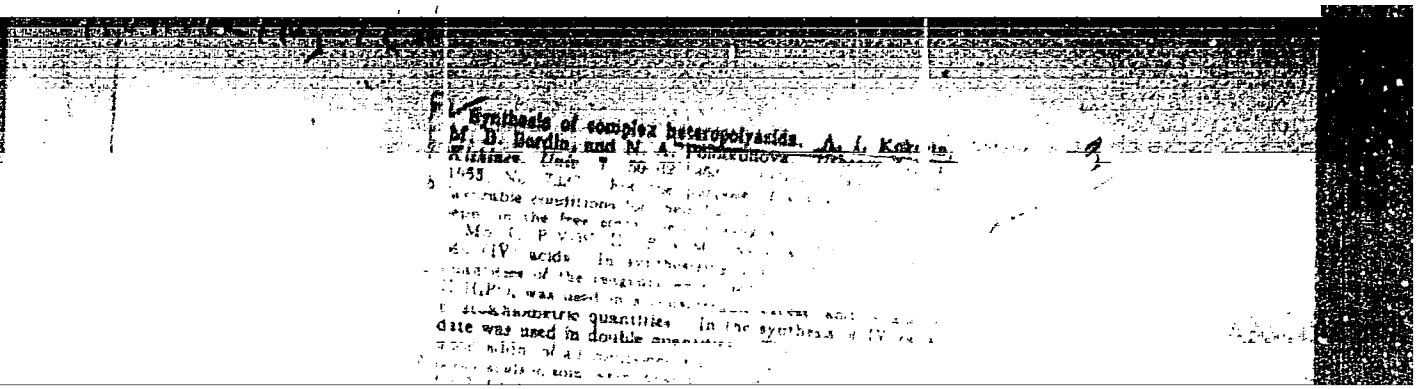


(7th) ppt. in 2*N* HCl and add reagents. Bi ppts. and Fe, Al, and Cr remain in soln. Ppt. Fe by the action of NH_4OH and H_2O_2. Al and Cr remain in soln. Boil with NH_4Cl to ppt. Al, leaving Cr in soln. Evap. soln. (6th) first with HNO_3 and then with HCl, ignite slightly, and dissolve in H_2O. Add NH_4Cl, NH_4OH, and 5 ml. 3% H_2O_2. Heat and filter off Mg and Pb. Dissolve in HNO_3 in the presence of 2–3 drops H_2O_2, bring to a boil, and add 2*N* H_2SO_4, dilute with H_2O, and filter. Pb is in the ppt. and Mn is the soln. After removal of Pb and Mn, treat the soln. with NH_4Cl and $(NH_4)_2CO_3$, thereby ppts. Ba, Sr, and Ca, and leaving Mg in soln. Det. Ba, Sr, and Ca by the usual methods. To remove traces of Pb treat the $BaCrO_4$ with NaOH. Boil the 6th soln. with HCl and Pb, thereby ppts. Hg, Cu, and some Pb. Dissolve the ppt. in HNO_3. Add NaOH and H_2O_2 to dissolve Pb, add to ppt., 2*N* H_2SO_4, thereby sepr. Hg (ppt.) and Cu (in soln.). To remove Pb from the filtrate after ppts. of Hg and Cu add a little 2*N* H_2SO_4, evap. to appearance of white fumes, and filter. Discard ppt. ($PbSO_4$) and evap. filtrate and ignite to complete removal of NH_4 salts. Dissolve the dry residue in dil. HCl. The soln. contains Cd, Co, Ni, Zn, K, and Na. Divide the soln. in 2 parts and add to one K_2CO_3, and to the other Na_2CO_3. Filter and det. Na in one and K in the other filtrate. Combine the ppts. and dissolve in HCl. Remove Zn with excess alkali in the presence of H_2O_2. Dissolve Cd, Co, and Ni in HCl, and detect them in separate aliquots. In the presence of Cl, Ag and Pb are removed after the sepn. of Sb and Sn. This method permits the detection of Hg and Cu without using hydrazine or hydroxylamine.

M. Hough



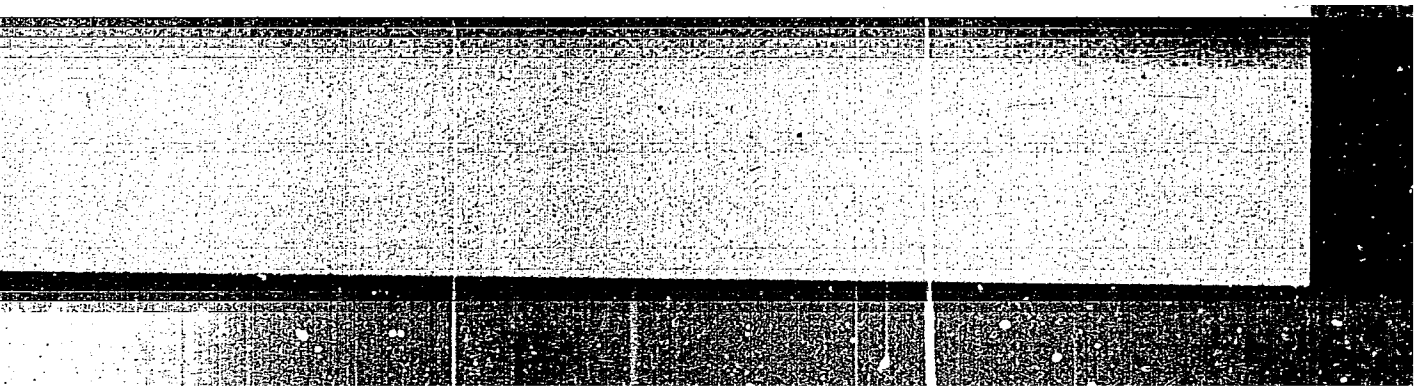
Synthesis of complex heteropolyacids. M. D. Berdin, and N. A. [illegible]

[illegible] acids [illegible]

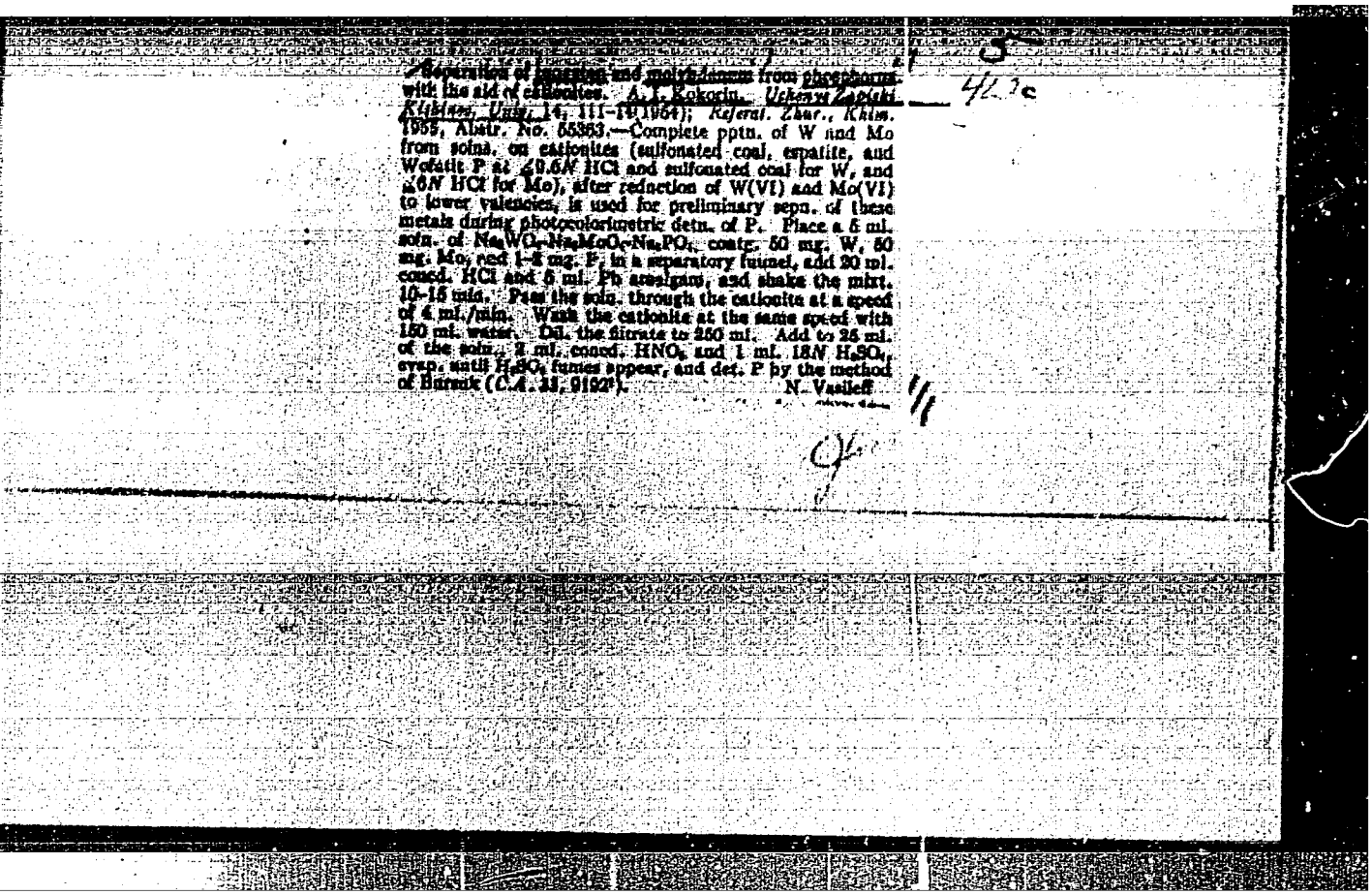
[illegible] was used [illegible]

[illegible] quantities [illegible]

date was used in double [illegible]

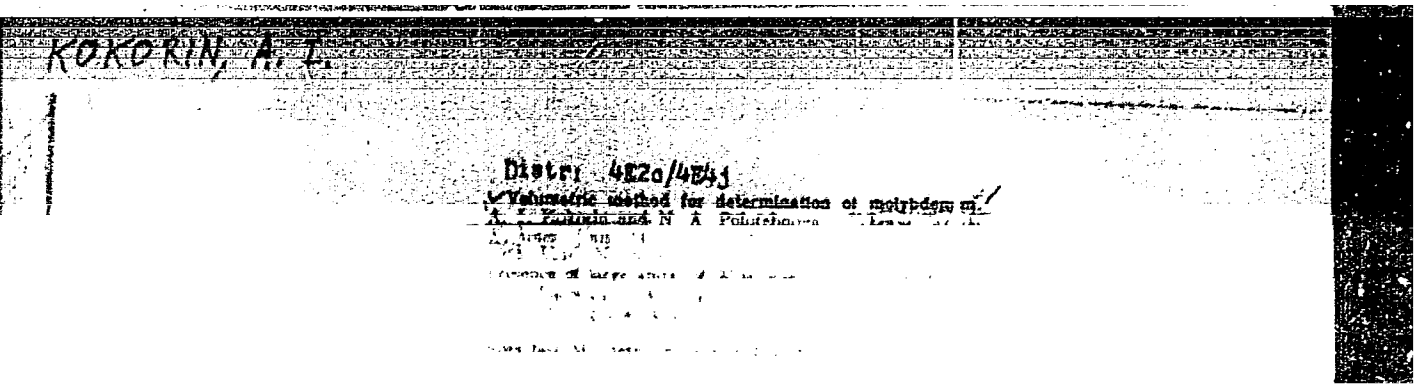


APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723710008-3"



Separation of tungsten and molybdenum from phosphorus with the aid of cationites. A. I. Kokorin. *Uchenye Zapiski Kishinev. Univ.*, 14, 111-19 (1954); *Referat. Zhur., Khim.* 1955, Abstr. No. 55363.—Complete pptn. of W and Mo from solns. on cationites (sulfonated coal, crpatite, and Wofatit P at ≤0.6*N* HCl and sulfonated coal for W, and ≤0*N* HCl for Mo), after reduction of W(VI) and Mo(VI) to lower valencies, is used for preliminary sepn. of these metals during photocolorimetric detn. of P. Place a 5 ml. soln. of Na_2WO_4-Na_2MoO_4-Na_2PO_4 contg. 50 mg. W, 50 mg. Mo, and 1–5 mg. P in a separatory funnel, add 20 ml. concd. HCl and 5 ml. Pb amalgam, and shake the mixt. 10–15 min. Pass the soln. through the cationite at a speed of 4 ml./min. Wash the cationite at the same speed with 150 ml. water. Dil. the filtrate to 250 ml. Add to 25 ml. of the soln., 2 ml. concd. HNO_3 and 1 ml. 18*N* H_2SO_4, evap. until H_2SO_4 fumes appear, and det. P by the method of Hurnik (*C.A.* 48, 9162*f*).

N. Vasileff

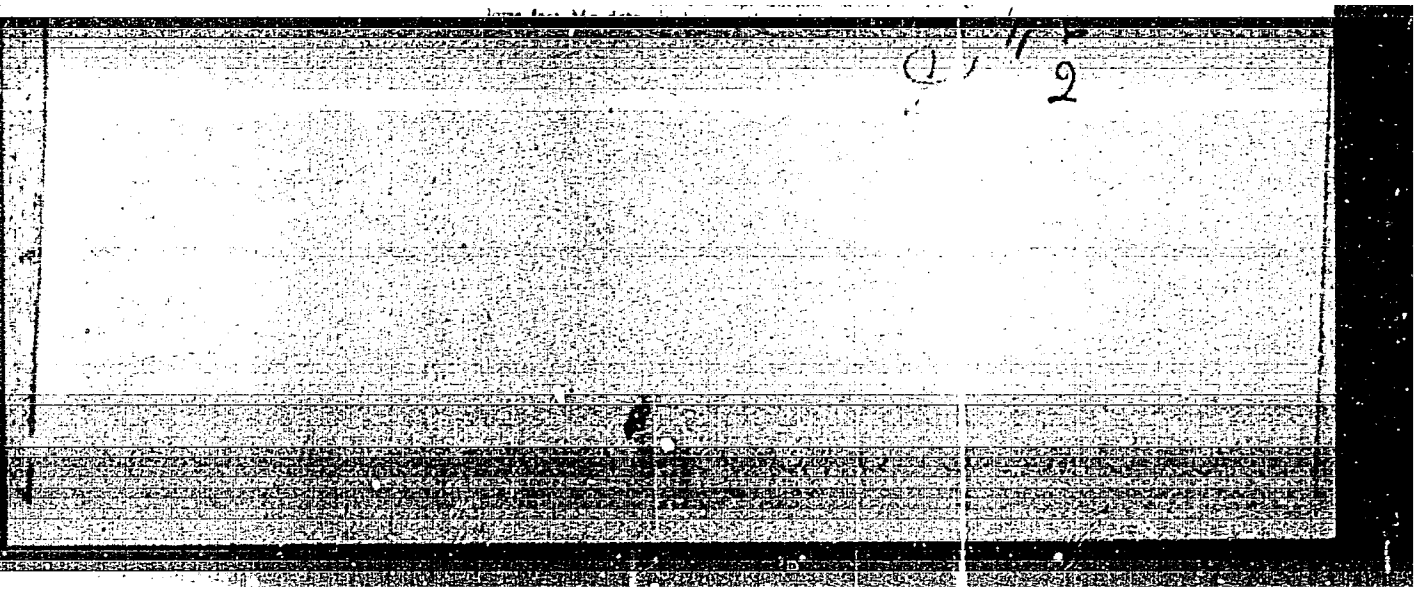


KOKORIN, A. I.

Distr: 4E2a/4E4j

Volumetric method for determination of molybdenum

A. I. Kokorin and N. A. Polotebnova



USSR/Chemistry - Synthesis

Card : 1/1

Authors : Kokorin, A. I.

Title : Hetero-triacids. Part 1. - Phosphoric-molybdic-vanadic and phosphoric-tungstic-vanadic acids. (Heterocyclic Acids of three different compounds)

Periodical : Zhur. Ob. Khim., 24, Ed. 6, 966 - 971, June 1954

Abstract : Report describes the optimum conditions necessary for the synthesis of phosphoric-molybdic-vanadic and phosphoric-tungstic-vanadic acids (hetero-triacids), by the application of the etherate method. Methods of analyzing these acids were developed. The basic substances for the synthesis of phosphoric-molybdic-vanadic acid were found to be: sodium vanadate, phosphoric and molybdic acids; sodium vandate. Phosphoric and tungstic acids are the basic substances for the synthesis of phosphoric-tungstic-vanadic acid. The formulas for these compounds are: $H_7[P(Mo_2O_7)_5V_2O_6]$ and $H_7[P(W_2O_7)_5V_2O_6]$. Nine references. Tables.

Institution : State University, Kishinev Ukr-SSR

Submitted : March 27, 1953

KOKORIN, A. I.

USSR/Chemistry - Synthesis

Card 1/1 Pub. 151 - 8/33

Authors : Kokorin, A. I., and Dimant, R. L.

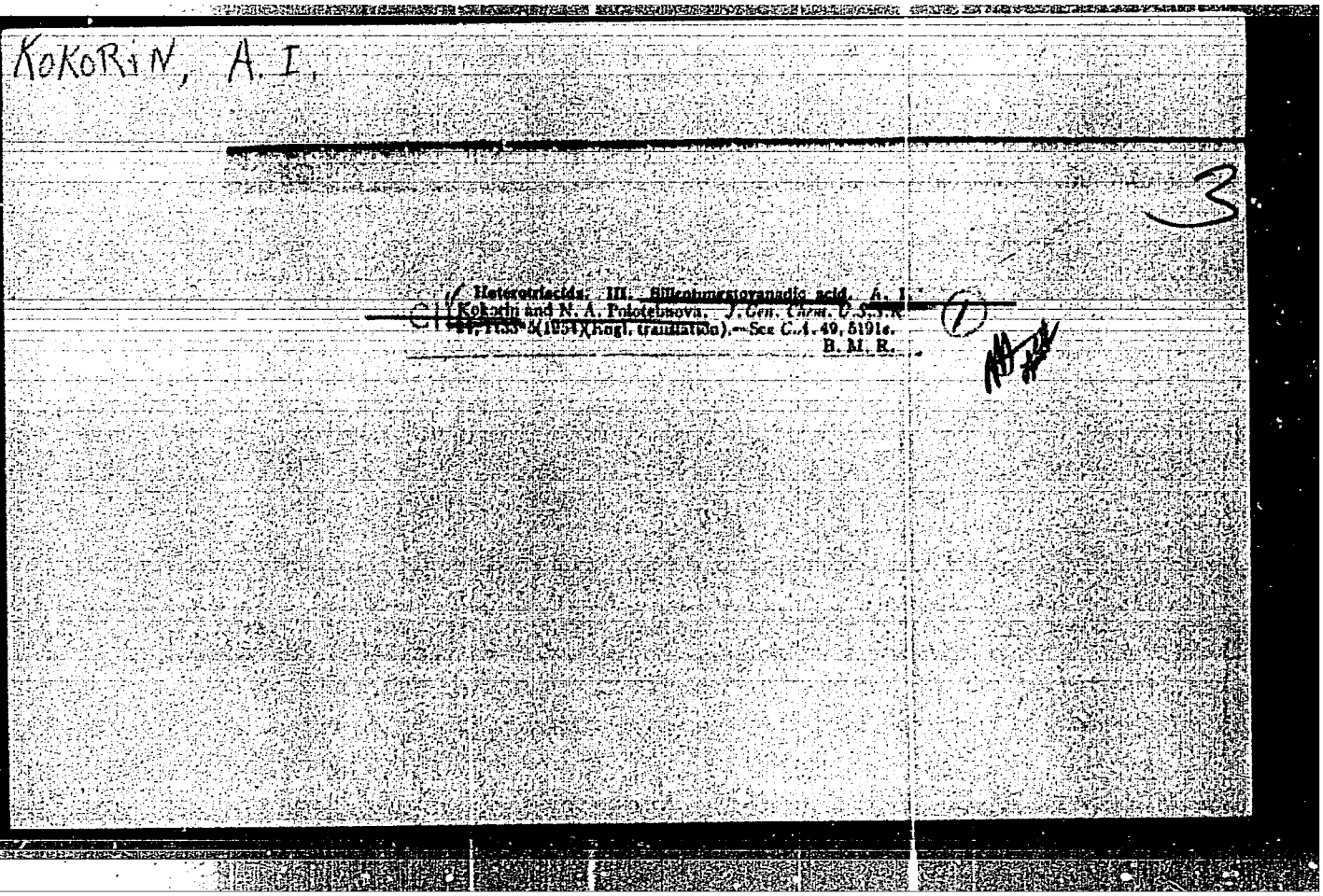
Title : Hetero-triacids. Part 2.- Silicomolybdenovanadic acid

Periodical : Zhur. ob. khim. 24/6, 971-974, June 1954

Abstract : The optimum conditions favorable for the synthesis of silicomolybdenovanadic acid by the etheral method were determined. The composition of the synthesized acid and some of its physico-chemical properties are described. The effects of the nature of the basic substances, their quantitative ratio, acidity of the medium during the formation of the complex anion and etherate, temperature and order of reagent introduction on the yield of the synthesising product, are explained. Table.

Institution : State University, Kishinev

Submitted : August 15, 1953



KOKORIN, A. I.

3

Heteropolyacids. III. Silicotungstovanadic acid. A. I. Kokorin and N. A. Polotebnova. *J. Gen. Chem. U.S.S.R.* 21, 1155–8(1951)(Engl. translation).—See *C.A.* 49, 5191e.
B. M. R.

USSR/Chemistry Synthesis

Card : 1/1 Pub. 151 - 9/35

Authors : Kokorin, A. I., and Polotebnova, N. A.

Title : Heterotriacids. Part 3.- Silica-tungstic-vanadic acid

Periodical : Zhur. ob. khim. 24, Ed. 7, 1137 - 1141, July 1954

Abstract : Conditions favorable for the synthesis (by the etherate method) and separation, in crystalline form, of silicic-tungstic-vanadic (heterotri-) acids, are described. Preliminary conversion of n-tungstate into meta-tungstate is considered to be the decisive factor for the synthesis of this hetero-triacid. The composition and chemical formula of the hetero-triacid, are described. Two USSR references. Tables.

Institution : State University, Kishinev, Mold-SSR

Submitted : August 24, 1953

KOKORIN, A.I.

USSR/Chemistry - Hetero-tri-acids

Card 1/1 Pub. 151 - 4/37

Authors : Kokorin, A. I., and Polotebnova, N. A.

Title : Hetero-tri-acids. Part 4.- Synthesis and analysis of germanictungsticvanadic acid.

Periodical : Zhur. ob. khim. 24/10, 1718-1721, Oct 1954

Abstract : A new and more effective method for the synthesis of saturated germanictungsticvanadic acid is introduced. The basic substance for the synthesis of this acid is described. The conditions favorable for the distillation of small Ge amounts in the form of germanium tetrachloride in the presence of large W amounts, are explained. The results obtained during the precipitation of small Ge amounts by means of tannin in the presence of large W amounts after separation of the latter in the form of tungstic acid, are listed. The composition of synthesized $H_8[Ge(W_2O_7)_5V_2O_6] \cdot nH_2O$, is described. Five references: 4-USSR and 1-German (1947-1954). Tables.

Institution : State University, Kishinev

Submitted : April 20, 1954

[redacted], L. I.:

Kokorin, L. I.:

"Tri- and tetrahetero polyacids." Acad Sci USSR, Inst of Geochemistry imeni V. I. Vernadskiy. Moscow, 1956. (Dissertation For the Degree of Doctor in Chemical Sciences).

Knizhnaya letopis'
No 34, 1956. Moscow.

KOKORIN, A.I.

New colorimetrical reactions for the determination of antimony. A. I. Kokorin and N. A. Polotebnova (State Univ., Khimfak.). *Trudy Komissii Anal. Khim., Akad. Nauk S.S.S.R., Inst. Geokhim. i Anal. Khim.* 7, 205-9 (1956).—The silicomolybdenovanadic and germanomolybdenovanadic acids were used for the colorimetric det. of Sb. Prepn.: To 5 g. $Na_2SiO_3.9H_2O$ in 125 ml. H_2O, 2 g. $NaVO_3$ (dissolved first by heating in the 100 ml. H_2O), and 31 g. $MoO_3.H_2O$ were added. The mixt. was refluxed for 2 hrs. After cooling, the soln. was transferred to a separatory funnel contg. 100 ml. of EtO_2. To the mixt. 115 ml. of H_2SO_4 (1:1) was added with shaking. After settling, the bottom layer was transferred into another separatory funnel contg. 6*N* H_2SO_4 satd. with EtO_2. The clear soln. was carefully decanted into a wide beaker. H_2O was added and the ether evapd. by carefully heating at 50–60°. The soln. was allowed to stand at room temp. for crystn. Red crystals of silicomolybdenovanadic acid were kept in an amber glass bottle. The germanomolybdenovanadic acid was prepd. as follows: to 1 g. GeO_2 in Na_2CO_3 soln. and 0.6 g. $NaVO_3$ in H_2O a small portion 18 g. $H_2MoO_4.H_2O$ in an aq. soln. was added. For complete dissolving of H_2MoO_4 the necessary amt. of alkali was added. The mixt. was dild. with H_2O to 100 ml., acidified with H_2SO_4 (1:1) to 0.2*N*, and refluxed for 2 hrs. After cooling the soln. was transferred to a separatory funnel contg. EtO_2 and H_2SO_4. The balance of the procedure was the same as above. For the colorimetric measurement a 5% soln. of the acids in H_2O was used. Detn. of Sb: to 0.1–0.7 ml. contg. 0.1–0.7 mg. of Sb *N* H_2SO_4 was added to make a total vol. of 3 ml., then 0.2 ml. of 5% soln. of silicomolybdenovanadic or germanomolybdenovanadic acid was added and after 1 min. the soln. was transferred to a 10-ml. volumetric flask dild. to the mark with H_2O and the blue color colorimetrically measured in a microphotocolorimeter.

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KOKORIN, A.I.

USSR/Inorganic Chemistry. Complex Compounds. C

Abs Jour : Ref Zhur - Khimiya, No. 8, 1957, 26473.

Author : Kokorin, A.I.; Polotebnova, N.A.

Inst :

Title : Heterotriacids. V. Heterotriacids of Phosphorus and Silicium with Variable Composition of Addends Containing Molybdenum and Tungsten.

Orig Pub : Zh. obshch. khimii, 1956, 26, No. 1, 3 - 10.

Abstract : The heterotriacids $H_7[P(Mo_2O_7)_n(W_2O_7)_m].xH_2O$ (I) and $H_8[Si(Mo_2O_7)_n(W_2O_7)_m].xH_2O$ (II) with $m + n = 6$ and $x = 16$ to 28 were separated by the esther method using metatungstate and metamolybdate as initial material. Experiments of potentiometric titration of I and II with KOH showed that the salts

$K_5H_2[P(Mo_2O_7)_n(W_2O_7)_m]$ and

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State Univ, Kishinev

AUTHORS: Kokorin, A. I., and Polotebnova, N. A. 79-2-6/58

TITLE: Heterotriacids. Part 6. Certain Properties of Heterotriacids (Geterotrikisloty. VI. Nekotoryye svoystva geterotrikislot)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, vol 27, No 2, pp 304-310 (U.S.S.R).

ABSTRACT: Data are presented on some of the important properties of heterotriacids synthesized by the authors. Employing the method of potentiometric titration with a potassium hydroxide solution with the use of a glass electrode and also by measuring the electrical conductivity in pH values aqueous solutions, the experimenters showed that the basicity of the heterotriacids, containing vanadium in role of addends, equals five or six. The number of salt-forming hydrogen ions neutralized by the potassium hydroxide solution was found to be 5 in heterotriacids containing V at the central Ge atom regardless of the second addendum Mo or W. Identical is the case in vanadium heterotriacids of P and Si with Mo in role of second addendum. The number of hydrogen ions in phosphoro-and silicotungstenvanadium heterotriacids was established as six. The melting points of heterotriacid crystal hydrates were determined as was their

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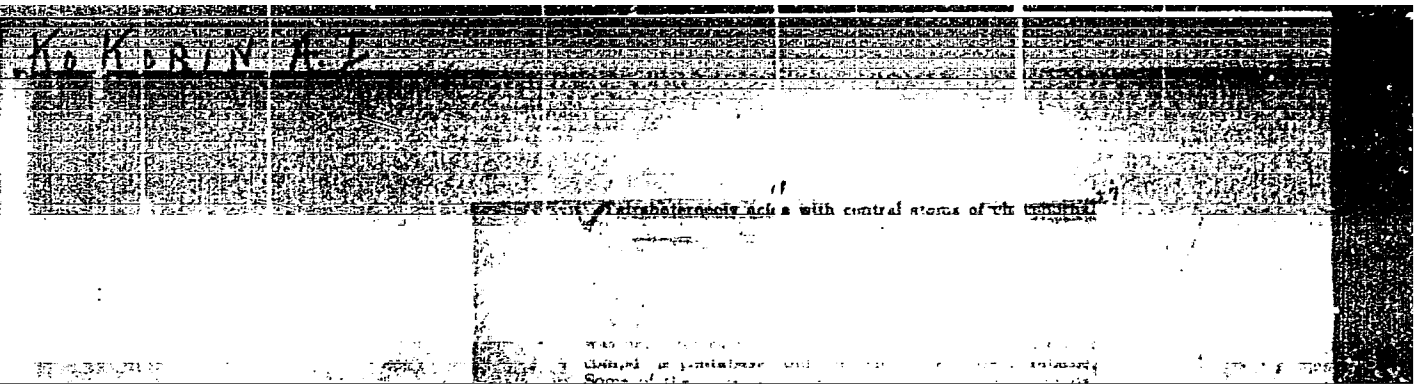

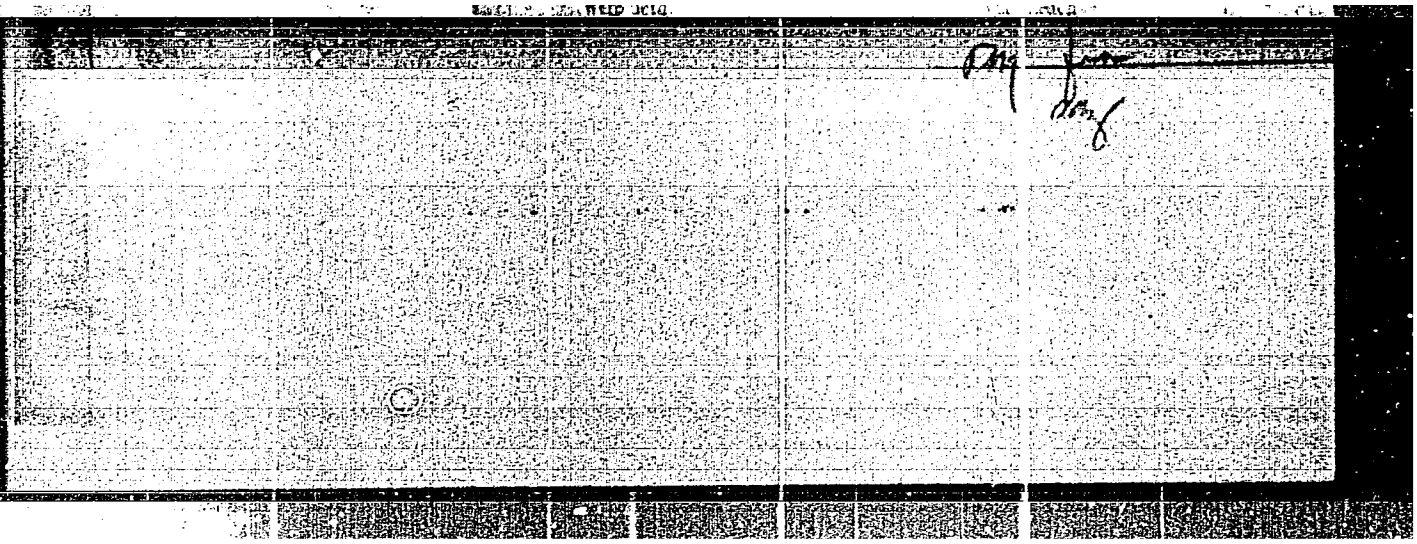

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KOKORIN, N.I.

PHASE I BOOK EXPLOITATION SOV/3850

SOV/9-M-8(11)

Akademiya nauk SSSR. Institut geokhimii i analiticheskoy khimii imeni V. I. Vernadskogo. Komissiya po analiticheskoy khimii

Spektrofotometricheskiye i kolorimetricheskiye metody analiza (Spectrophotometric and Colorimetric Methods of Analysis) Moscow, 1958. 235 p. (Series: Its: Trudy, tom. 8 (11) Errata slip inserted. 3,000 copies printed.

Resp. Ed.: I. P. Alimarin, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: V. M. Peshkova; Tech. Ed.: N. I. Mashvicheva.

PURPOSE: The publication is intended for chemists, particularly analytical chemists and geochemists.

COVERAGE: This collection of 29 articles is published as Volume VIII (XI) of the Transactions of the Committee on Analytical Chemistry at the Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, Academy of Sciences USSR. The general subject of the volume is the investigation of spectrophotometric and colorimetric analysis. Individual articles on the following topics may deserve special attention: the present state of light absorption analysis, the sensitivity of the colorimetric methods of inorganic analysis, the basic variations of the kinetic method of analysis, spectrophotometric investigation of heteropolyacids of germanium, a new colorimetric method of determining small quantities of thallium, a fluorimetric method of determining uranium, spectro-photometric investigation of the behavior of oxidation-reduction indicators, a phasometric optical-acoustical method of gas analysis, and a description of an automatic spectrophotometric gas analyzer. No personalities are mentioned. References are given at the end of each article.

TABLE OF CONTENTS:

1/2

AUTHOR: Kokorin, A. I. SOV/156-58-3-17/52

TITLE: On the Problem of the Oxidizability of Tri- and Tetraheteropoly Acids (K voprosu ob okislitel'noy sposobnosti tri- i tetrageteropoli-kislot)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 3, pp. 475-478 (USSR)

ABSTRACT: The synthesis of tri- and tetraheteropoly acids was described by the author in earlier papers (Ref 1). The oxidizing properties were determined by titration with titanium(III)chloride in CO_2-atmosphere. The potentiometer [illegible]V-1 with platinum indicator electrode and calomel comparison electrode was used for indicating the course of the titration. The results of the titration for the characteristic points are given in tables 1 to 4. According to their oxidizing properties the heteropoly acids have to be arranged in the following order:

1. $H_7[P(Mo_2O_7)_5V_2O_6]$;
2. $H_7[P(Mo_2O_7)_4W_2O_7V_2O_6]$;
3. $H_7[P(W_2O_7)_5V_2O_6]$;

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On the Problem of the Oxidizability of Tri- and Tetraheteropoly Acids

4. $H_7[Si(W_2O_7)_5V_2O_6]$;
5. $H_7[P(Mo_2O_7)_n(W_2O_7)_m]$, for n+m=6;
6. $H_7[PMo_2O_7(W_2O_7)_4V_2O_6]$;
7. $H_7[P(Mo_2O_7)_6]$;
8. $H_8[Si(Mo_2O_7)_n(W_2O_7)_m]$;
9. $H_8[Si(Mo_2O_7)_6]$;
10. $H_7[P(W_2O_7)_6]$;
11. $H_8[Si(W_2O_7)_6]$.

Phosphoroustheteropoly acids oxidise more readily than those with silicon as central atom; the oxidizability increases with the increase in the number of vanadium and molybdenum atoms. The complex heteropoly acids with phosphorus as central atom have two clear jumps in the titration curve. Together with V. M. Ropot, student, the author worked out a method for the quantitative determination of aluminium using triheteropoly acids. Aluminium is precipitated as oxyquinolate and the precipitate

On the Problem of the Oxidizability of Tri- and Tetraheteropoly Acids

is dissolved in hydrochloric acid and alcohol. In a weakly alkaline medium many triheteropoly acids are reduced by aluminiumoxyquinolate to the "blue". These solutions can be used spectrophotometrically. By means of the method devised 0.005 to 0.5 mg aluminium in 25 ml solution can be determined by means of siliconmolybdenumvanadine and siliconmolybdenum-tungstic acid. There are 4 tables and 4 references, which are Soviet.

ASSOCIATION: Kafedra analiticheskoy khimii Kishinevskogo gosudarstvennogo universiteta (Chair of Analytical Chemistry of Kishinev State University).

SUBMITTED: October 23, 1957

KOKORIN, A.I.

Use of tri- and tetraheteropoly acids in colorimetric analysis.
Trudy kom. anal. khim. 8:88-99 '58. (MIRA 11:8)

1.Kishinevskiy gosudarstvennyy universitet.
(Acids) (Colorimetry)

Kokorin, A. I.

AUTHOR: Bilimovich, G. N. SOV/75-14-4-30/30

TITLE: Section of Analytical Chemistry of the VIII Mendeleyev Congress on General and Applied Chemistry

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 4, pp 511-512 (USSR)

ABSTRACT: Approximately 300 persons participated in the work of the Department of Analytical Chemistry, among them representatives of various scientific research institutes, higher schools and industrial enterprises in Russia, scientists from China, Bulgaria, the CSR, Poland, Hungary, and Italy. Approximately 70 reports were heard. In his opening speech I. P. Alimarin reported on the achieved results and on modern problems of analytical chemistry. I. V. Tananayev reported on the application of physico-chemical analysis in heterogeneous systems for the solution of a series of problems of analytical chemistry. V. I. Kuznetsov reported on modern aims in the use of organic reagents; A. K. Babko showed at the example of halide and thiocyanate complexes the correlation between the stability of complexes and the position of the corresponding central atoms in the periodic system. V. M. Peshkova and V. M. Bochkova lectured on the stability of oximates of Cu, Co, and Ni as depending on the structure of the oxime molecule. N. P. Torupova lectured on the double character of reaction of some compounds in the formation of complexes. The problem of the application of heteropolyacids in analytical chemistry was dealt with in the lectures of

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E. F. Shakhova and co-workers, and A. I. Kokorin and N. A. Polotebnova. A large number of lectures dealt with the use of new organic reagents in analysis: A. I. Busev and M. I. Ivanyutin reported on the application of dialkyl and diaryl dithiophosphoric acid for the separation of elements, A. I. Portnov used aryl arsonic acid and aryl phosphinic acid. R. P. Lastovskiy and his co-workers treated some properties of new complexons. The lectures of I. A. Nazarenko, G. G. Shitareva and A. I. Lomonenko dealt with the photometric determination of a series of elements using fluorine derivates. A. I. Cherkesov lectured on the use of halochromatism in analytical chemistry. D. M. Dobkina and T. M. Malyutina lectured on the determination of tantalum using differential spectrophotometry. Yu. Y. Morachevskiy and L. A. Stolyarova reported on new highly sensitive analysis methods using an ultraviolet microscope. Several lectures dealt with methodical and theoretical problems of spectrum analysis

Card 2/4

(N. F. Zakharin and G. A. Shevkin; E. Ye. Varshtern and co-workers). N. S. Poluektov and M. P. Nikonova treated the perfection of flame photometry. Several lectures dealt with the determination of elements by polarography (S. I. Sinyakova; K. B. Rozhdestvenskaya and I. A. Yarovoy; Ye. F. Gokhshteyn). New results in using fixed electrodes were reported by I. D. Panchenko and Yu. S. Lyalikov and co-workers. The lecture of M. I. Mal'tseva and V. K. Paley treated the use of amperometric titration with two electrodes in the chemistry of uranium and thorium. R. N. Senyavin showed possibilities of predicting the conditions of chromatographic separation of elements based on their position in the periodic system. T. A. Belyavskaya reported on the use of ion exchange in the investigation of the state of substances in solutions. A. B. Vernidub and V. I. Petrashen' lectured on the chromatographic separation of a series of elements. V. G. Polyanskiy reported on adapting the properties of ion exchanger resins. F. N. Shemyakin and associates reported on the chromatographic proof of sulfanilamide preparations in liquids of the organism. G. L. Starobinets and associates treated

Card 3/4

the application of high polymers in chromatographic analysis. The lecture of A. A. Zhukhovitskiy and N. M. Turkel'taub, G. Shay dealt with gas chromatography. Several lectures treated the use of radioactive isotopes for the chromatographic investigation of complex formation (D. I. Ryabchikov and associates), for the investigation of the co-precipitation mechanism of ions of rare metals with sulfides (N. A. Rudnev) and for determining rare elements by means of isotope dilution (I. P. Alimarin, G. N. Bilimovich). In the field of elementary organic microanalysis the lectures of M. O. Korshun, F. E. Gel'man and V. A. Klimova with associates have to be mentioned, who treated the elaboration of rapid micromethods for the simultaneous determination of several elements from one weighed portion of boron, fluorine and silicium-organic compounds.

vy

KOKORIN, A.I.; KOPYTOV, V.M.

On some classes of ordered groups. Alg. i log. 1 no.3:21-23 '62
(MIRA 8:1)

KOKORIN, A.I.

A class of structurally ordered groups. Mat. zap. Ural. mat. ob-va UrGU 3 no.3:37-38 '62. (MIRA 18:7)

KONTOROVICH, P.G.; KOKORIN, A.I.

A type of partially ordered groups. Mat. zap. Ural. mat. ob-va UrGU 3 no.3.39-44 '62. (MIRA 18:7)

GUREVICH, Yu. Sh; KOKORIN, A.I.

Universal equivalence of ordered Abelian groups. Alg. i log.
2 no.1:37-39 '63 (MIRA 18:1)

KOKORIN, A.I.

Continuous ordering of groups. Dokl. AN SSSR 151 no.1:31-33 Jl '63. (MIRA 16:9)

1. Predstavleno akademikom A.I.Mal'tsevym.
(Groups, Theory of)

KOKORIN, A.I.

Theory of ordering groups. Alg. i log. 2 no.6:15-20 '63.
(MIRA 17:8)

KOKORIN, A.I.

Methods for the structural ordering of a free abelian group with a finite number of generators. Mat. zap. Ural. mat. ob-va UrGu 4 no.1:45-48 '63. (MIRA 17:9)

KOKORIN, A.I. [deceased]; RADENKO, S.K.

Colorimetric determination of cobalt in steel by means of trihetero acids. Uch.zap.Kish.un. 68:45-47 '63 (MIRA 18:12) [cover '64].

DERKACH, L.V.; KOKORIN, A.I. [deceased]

Spectrophotometric study of heteropoly acids. Uch.zap.Kish.un. 68:43-51 '63 [cover '64]. (MIRA 18:12)

USSR / General and Special Zoology. Insects. Harmful Insects.and Arachnids. Posts of Forage Cultures. P

Abs Jour: Ref Zhur-Biol., No 14, 1958, 64057.

Author : Kokorin, A. N.
Inst : Not given.
Title : Clover Pests and Methods of Controlling them.

Orig Pub: Zashchita rast. ot vredit. i bolezney, 1957, No 3, 40-42.

Abstract: Stems of the red clover in the north-western zone of USSR are damaged by the Apion virens larvae by 21-80% and by A. siniculus by 81-100%. The biology of stem weevils studied by the All-Union Institute for the Protection of Plants.in 1954-1955 is set forth. BHC dusting of the clover seeds against the pests decreased the damage to

Card 1/2

KOKORIN, A.N.

Effect of fall plowing of clover fields on the number of wintering clover pests. Trudy VIZR no. 21 pt. 1:80-88 '64. (MIRA 18:12)

KOKORIN, A.N., nauchnyy sotrudnik.

New chemicals for controlling clover pests. Zashch. rast. ot vred. i bol. 3 no.3:40-41 My-Je '58. (MIRA 11:6)
(Clover--Diseases and pests)

KOKORIN, A.N.

Biological basis of measures for the control of clover pests of the order Coleoptera. Trudy VIZR no.14:13-30 '60. (MIRA 14:12)
(Russia, Northwestern--Weevils)
(Clover--Diseases and pests)

KOKORIN, A.N.

Effect of fall plowing of clover fields on the decrease in number of clover pests of the order Coleoptera. Vop. ekol. 7:81-82 '62. (MIRA 16:5)

1. Vsesoyuznyy institut zashchity rasteniy, Leningrad.
(Leningrad Province--Clover--Diseases and pests)
(Weevils)

AUTHORS: Kokorin G.A.
Smirnova, A.V., Kokorin, G.A. 32-12-22/71

TITLE: The Application of Carbon Prints for the Investigation of the Structure of Metals by Means of the Electron Microscope (Primeneniye ugol'nykh otpechatkov pri izuchenii struktury metallov na elektronnom mikroskope).

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 12, pp. 1446-1448 (USSR)

ABSTRACT: Investigations were carried out of samples of iron "У-8" and steel "20ХГ", which were subjected to different kinds of thermal treatment in order duly to be able to study the structural transformations. For the experiments spectral carbon bars with 6 mm diameter were used, which were pulverized under vacuum by means of a special device. The device, which is called "ВУП-1", consists of two massive contacts which are fastened on to a base plate by means of fixing screws. One of the contacts consists of a movable socket with spring, which makes it possible to press the carbon bar enclosed by it in the direction of the other contact, whereby this carbon bar is brought into constant contact with a similar carbon bar fastened to the first contact. One of these ends of contact is pointed, the other is flat. The samples are fastened in a position above the contacts by means of two vertical stands and 1 transversal bar (in a height of 40-50

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The Application of Carbon Prints for the Investigation of the Structure of Metals by Means of the Electron Microscope 32-12-22/71

mm). In the "high vacuum" (which is not precisely defined) and with an amperage of 60-70 A the carbon bars are pulverized. On this occasion the carbon settles in the relief joints and in this way the contrast of the image is formed. In order to conserve the relief on the samples they are first ground and then etched. Of the samples treated with carbon in the vacuum (as described above) the prints were taken by a gelatin layer (10%) or electrolytically, and were then investigated on the electron microscope "EM-3". For photomicropictures the 6000 or 18000-fold enlargements (which are mentioned here) were used. The conclusions are drawn that in this manner various structural properties can be studied which cannot be determined by using other methods. There are 4 figures.

ASSOCIATION: Central Scientific Research Institute for Ferrous Metallurgy (Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii).

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Card 2/2 1. Steel-Heat treatment 2. Steel-Structural transformations
3. Metal structure determination-Electron microscope-Applications